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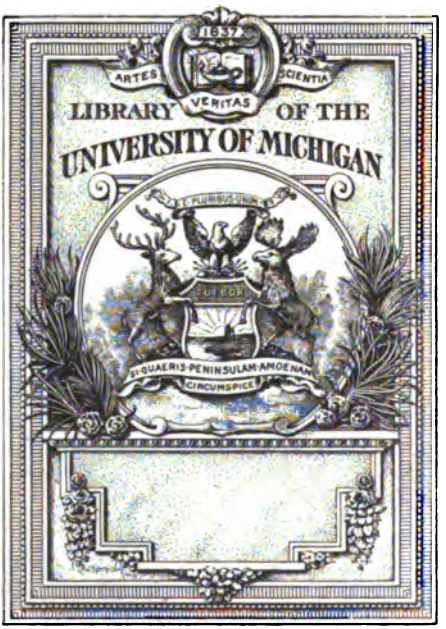

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PUBLICATIONS OF THE BUREAU OF FOREIGN COMMERCE.*

The publications of the Bureau of Foreign Commerce, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from diplomatic and consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued daily, except Sundays and legal holidays, for the convenience of the newspaper press, commercial and manufacturing organizations, etc.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months. There is also issued an annual edition of Declared Exports, embracing the returns for the fiscal year.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883; Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885–86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs in Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

In 1890, the Department decided to publish reports on special subjects in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1890 and 1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet-Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries. (New edition, 1897.)

Vol. 4 (1891).—Port Regulations in Foreign Countries.

Vol. 5 (1891).—Canals and Irrigation in Foreign Countries. (New edition, 1898.)

Vol. 6 (1891 and 1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

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* Formerly Bureau of Statistics. Name changed to Bureau of Foreign Commerce by order of the Secretary of State, July 1, 1897.

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Vol. 9 (1892 and 1893).—Australian Sheep and Wool and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour. (New edition, 1897.)

Vol. 11 (1894).—American Lumber in Foreign Markets. (New edition, 1897.)

Vol. 12 (1895).—Highways of Commerce. (New edition, 1899.)

Vol. 13 (1896 and 1897).—Money and Prices in Foreign Countries.

Vol. 14 (1898).—The Drug Trade in Foreign Countries.

Vol. 15 (1898).—Part I. Soap Trade in Foreign Countries; Screws, Nuts, and Bolts in Foreign Countries; Argols in Europe, Rabbits and Rabbit Furs in Europe, and Cultivation of Ramie in Foreign Countries. Part II. Sericulture and Silk Reeling and Cultivation of the English Walnut.

Vol. 16 (1899).—Tariffs of Foreign Countries. Part I. Europe. Part II. America. Part III. Asia, Africa, Australasia, and Polynesia. Supplement (1900). Tariffs of Chile and Nicaragua.

Vol. 17 (1899).—Disposal of Sewage and Garbage in Foreign Countries; Foreign Trade in Coal Tar and By-Products.

Vol. 18 (1900).—Merchant Marine of Foreign Countries.

Vol. 19 (1900).—Paper in Foreign Countries; Uses of Wood Pulp.

Vol. 20 (1900).—Part I. Book Cloth in Foreign Countries, Market for Ready-Made Clothing in Latin America, Foreign Imports of American Tobacco, and Cigar and Cigarette Industry in Latin America. Part II. School Gardens in Europe. Part III. The Stave Trade in Foreign Countries.

Vol. 21 (1900).—Part I. Foreign Markets for American Coal. Part II. Vehicle Industry in Europe. Part III. Trusts and Trade Combinations in Europe.

Vol. 22 (1900 and 1901).—Part I. Acetic Acid in Foreign Countries. Part II. Mineral-Water Industry. Part III. Foreign Trade in Heating and Cooking Stoves.

Vol. 23 (1901).—Part I. Gas and Oil Engines in Foreign Countries.

Of these SPECIAL CONSULAR REPORTS, Australian Sheep and Wool, Cotton Textiles in Foreign Countries, Files in Spanish America, Fire and Building Regulations, Fruit Culture, Gas in Foreign Countries, India Rubber, Lead and Zinc Mining, Malt and Beer in Spanish America, Port Regulations, Refrigerators and Food Preservation; Sericulture, etc.; Vagrancy, etc., are exhausted, and no copies can be supplied by the Department.

There was also published, in 1899, Proclamations and Decrees during the War with Spain, comprising neutrality circulars issued by foreign countries, proclamations by the President, orders of the War and Navy Departments, and war decrees of Spain.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, Porto Rico, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Foreign Commerce, Department of State, Washington, U. S. A."

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VALUES OF FOREIGN COINS AND CURRENCIES.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

The fact that the market exchange value of foreign coins differs in many instances from that given by the United States Treasury has been repeatedly called to the attention of the Bureau of Foreign Commerce. An explanation of the basis of the quarterly valuations was asked from the United States Director of the Mint, and under date of February 7, 1898, Mr. R. E. Preston made the following statement:

"When a country has the single gold standard, the value of its standard coins is estimated to be that of the number of grains fine of gold in them, 480 grains being reckoned equivalent to $20.67 in United States gold, and a smaller number of grains in proportion. When a country has the double standard, but keeps its full legal-tender silver coins at par with gold, the coins of both gold and silver are calculated on the basis of the gold value.

"The value of the standard coins of countries with the single silver standard is calculated to be that of the average market value of the pure metal they contained during the three months preceding the date of the proclamation of their value in United States gold by the Secretary of the Treasury. The value of the gold coins of silver-standard countries is calculated at that of the pure gold they contain, just as if they had the single gold standard.

"These valuations are used in estimating the values of all foreign merchandise exported to the United States."

The following statements, running from January 1, 1874, to July 1, 1901, have been prepared to assist in computing the values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1896, and in the quarterly valuations thereafter.

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To meet typographical requirements, the quotations for the years 1875–1877, 1879–1882, and 1884–1887 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

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A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange."

Countries.	Standard.	Monetary unit.	Value in U.S. gold.	Coins.
Argentine Republic..	Gold and silver..	Peso.....	$0.96,5	Gold—argentine ($4.82,4) and ½ argentine; silver—peso and divisions.
Austria-Hungary*.....	Gold	Crown.....	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver..	Franc.....	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil.....	Gold	Milreis.....	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	.....do	Dollar.....	1.00	
British Honduras.....	.....do	.....do	1.00	
Chile.....	.....do	Peso.....	.36,5	Gold—escudo ($1.25), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Costa Rica.....	.....do	Colon.....	.46,5	Gold—2, 5, 10, and 20 colons; silver—5, 10, 25, and 50 centisimos.
Cuba	Gold and silver..	Peso.....	.92,6	Gold—doubloon ($5.01,7); silver—peso (60 cents).
Denmark	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Ecuador†.....	.....do	Sucre.....	.48,7	Gold—10 sucres ($4.8665); silver—sucre and divisions.
Egypt.....	.....do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland.....	.....do	Mark.....	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver..	Franc.....	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark.....	.23,8	Gold—5, 10, and 20 marks.
Great Britain.....	.....do	Pound sterling..	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece.....	Gold and silver..	Drachma.....	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	.....do	Gourde.....	.96,5	Silver—gourde.
India‡.....	Gold	Rupee	.32,4	Gold—sovereign ($4.8665); silver—rupee and divisions.
Italy.....	Gold and silver..	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Japan §.....	Gold	Yen.....	.49,8	Gold—1, 2, 5, 10, and 20 yen.
Liberia	.....do	Dollar.....	1.00	
Netherlands.....	Gold and silver..	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar.....	1.01,4	Gold—$2 ($2.02,7).
Peru‖.....	.....do	Sol	.48,7	Gold—libra ($4.8665); silver—sol and divisions.
Portugal.....	.....do	Milreis.....	1.08	Gold—1, 2, 5, and 10 milreis.
Russia ¶	.....do	Ruble.....	.51,5	Gold—imperial ($7.718) and ½ imperial ($3.80); silver—¼, ½, and 1 ruble.
Spain.....	Gold and silver..	Peseta.....	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway.	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver..	Franc.....	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster.....	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Uruguay	.....do	Peso.....	1.03,4	Gold—peso; silver—peso and divisions.
Venezuela.....	Gold and silver..	Bolivar.....	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

*The gold standard went into effect January 1, 1900 (see Commercial Relations, 1899, Vol. II, p. 7). Values are still sometimes expressed in the florin, which is worth 2 crowns.

† Gold standard adopted in November, 1900. (See Consular Reports No. 225, June, 1899.)

‡ For an account of the adoption of the gold standard, see Consular Reports No. 238, p. 359.

§ Gold standard adopted October 1, 1897. (See Consular Reports No. 201, p. 259.)

‖ Gold standard adopted October 13, 1900.

¶ For an account of the adoption of the gold standard, see Review of the World's Commerce, 1896-97, p. 254.

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B.—*Countries with fluctuating currencies, 1874–1896.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1878.	1883.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.40,1	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.81,2	.69,9	.68	.85
Central America	do	Peso	.96,5	.91,8		.69,9	.68	.85
China	do	Haikwan tael	1.61					
Colombia	do	Peso	.96,5	.96,5	.81,2	.69,9	.68	.85
Ecuador	do	do	.96,5	.91,8	.81,2	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).		4.97,4	4.90	4.94,3		
India	Silver	Rupee	.45,8	.43,6	.38,6	.32,2	.32,3	.40,4
Japan	Gold	Yen	.99,7	.99,7		.99,7	.99,7	.99,7
	Silver				.87,6	.75,3	.73,4	.91,7
Mexico	do	Dollar	1.04,7½	.99,8	.88,2	.75,9	.73,9	.92,3
Netherlands‡	Gold and Silver.	Florin	.40,5	.38,5				
Peru	Silver	Sol	.92,5	.91,8	.81,2	.69,9	.68	.85
Russia	do	Ruble	.77,17	.73,4	.65	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.73,3	.63	.61,4	.76,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1891.	1892.	1893.	1894.	1895.	1896.
Austria-Hungary*.	Silver	Florin	$0.38,1	$0.34,1				
Bolivia	do	Boliviano	.77,1	.69,1	$0.61,3	$0.51,6	$0.45,5	$0.49,1
Central America	do	Peso	.77,1	.69,1	.61,3	.51,6	.45,5	.49,1
Colombia	do	do	.77,1	.69,1	.61,3	.51,6	.45,5	.49,1
Ecuador	do	do	.77,1	.69,1	.61,3	.51,6	.45,5	.49,1
India	do	Rupee	.36,6	.32,8	.29,2	.24,5	.21,6	.23,3
Japan	do	Yen	.83,1	.74,5	.66,1	.55,6	.49,1	.52,9
Mexico	do	Dollar	.83,7	.75	.66,6	.56	.49,5	.53,3
Peru	do	Sol	.77,1	.69,1	.61,3	.51,6	.45,5	.49,1
Russia	do	Ruble	.61,7	.55,3	.49,1	.41,3	.36,4	.39,3
Tripoli	do	Mahbub of 20 piasters.	.69,5	.62,3	.55,3	.46,5	.41,1	.44,3

*The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (see CONSULAR REPORTS No. 147, p. 623) established the gold standard.

†The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

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C.—*Quarterly valuations of fluctuating currencies.*

Countries.	Monetary unit.	1898.				1899.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.42,4	$0.40,9	$0.41,8	$0.43,6	$0.43,9	$0.43,4	$0.44,3	$0.43,6
Central America.	Silver peso	.41,4	.40,9	.41,8	.43,6	.43,9	.43,4	.44,3	.43,6
China	Amoy tael	.68,5	.66,2	.67,6	.70,6	.71	.70,2	.71,6	.70,5
	Canton tael	.68,3	.66	.67,4	.70,4	.70,8	.70	.71,4	.70,3
	Chefoo tael	.65,5	.63,3	.64,6	.67,5	.67,9	.67,2	.68,4	.67,4
	Chinkiang tael	.66,9	.64,6	.66	.69	.69,3	.68,6	.69,9	.68,9
	Fuchau tael	.63,4	.61,2	.62,5	.65,3	.65,6	.65	.66,2	.65,2
	Haikwan tael	.69,7	.67,3	.68,8	.71,8	.72,2	.71,4	.72,8	.71,8
	Hankau tael	.64,1	.61,9	.63,2	.66	.66,4	.65,7	.67	.66
	Hongkong tael	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
	Ningpo tael	.64,3	.63	.65	.67,9	.68,2	.67,5	.68,8	.67,8
	Niuchwang tael	.65,9	.62	.63,4	.66,2	.66,5	.65,9	.67,1	.66,1
	Shanghai tael	.62,6	.60,4	.61,7	.64,5	.64,8	.64,1	.65,4	.64,4
	Swatow tael	.63,3	.61,1	.62,4	.65,2	.65,5	.64,9	.66,1	.65,1
	Takao tael	.66	.66,6	.68	.71	.71,4	.70,7	.72	.71
	Tientsin tael	.66,4	.64,1	.65,5	.68,4	.68,8	.68	.69,4	.68,3
Colombia	Silver peso	.42,4	.40,9	.41,8	.43,6	.43,9	.43,4	.44,3	.43,6
Ecuador	do	.42,4	.40,9	.41,8	.43,6	.43,9	.43,4	.44,3	.43,6
India	Silver rupee†	.20,1	.19,1	.19,9	.20,7	.20,8	.20,6	.21	.20,7
Mexico	Silver dollar	.46	.44,4	.45,4	.47,4	.47,7	.47,2	.48,1	.47,4
Persia	Silver kran	.07,8	.07,5	.07,7	.08	.08,1	.08	.08,2	.08
Peru	Silver sol	.42,4	.40,9	.41,8	.43,6	.43,9	.43,4	.44,3	.43,6

Countries.	Monetary unit.	1900.				1901.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.42,7	$0.43,6	$0.43,8	$0.45,1	$0.46,8	$0.45,1	$0.43,6	$0.42,8
Central America.	Silver peso	.42,7	.43,6	.43,8	.45,1	.46,5	.45,1	.43,6	.42,8
Chin	Amoy tael	.69,1	.70,5	.70,9	.72,9	.75,7	.72,9	.70,5	.69,1
	Canton tael	.68,9	.70,3	.70,7	.72,7	.75,5	.72,7	.70,3	.68,9
	Chefoo tael	.66,1	.67,4	.67,8	.69,7	.72,4	.69,7	.67,4	.66,1
	Chinkiang tael	.67,5	.68,8	.69,3	.71,2	.74	.71,2	.68,8	.67,5
	Fuchau tael	.64	.65,2	.65,6	.67,4	.70,1	.67,5	.65,2	.64
	Haikwan tael	.70,3	.71,7	.72,1	.74,2	.77,1	.74,2	.71,7	.70,4
	Hankau tael	.64,7	.65,9	.66,3	.68,2	.70,9	.68,2	.65,9	.64,7
	Hongkong tael	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
	Ningpo tael	.66,5	.67,7	.68,2	.70,1	.72,8	.70,1	.67,8	.66,5
	Niuchwang tael	.64,8	.66,1	.66,5	.68,4	.71	.68,4	.66,1	.64,8
	Shanghai tael	.63,1	.64,4	.64,8	.66,6	.69,2	.66,6	.64,4	.63,2
	Swatow tael	.63,9	.65,1	.65,5	.67,4	.70	.67,4	.65,1	.63,9
	Takao tael	.69,6	.70,9	.71,4	.73,4	.76,2	.73,4	.70,9	.69,6
	Tientsin tael	.67	.68,3	.68,7	.70,7	.73,4	.70,7	.68,3	.67
Colombia	Silver peso	.42,7	.43,6	.43,8	.45,1	.46,8	.45,1	.43,6	.42,8
India	Silver rupee†	.20,3	.20,7	.20,8	.....	.....	.....	.....	.....
Mexico	Silver dollar	.46,4	.47,3	.47,6	.49	.50,9	.49	.49	.46,4
Persia	Silver kran	.07,9	.08	.08,1	.08,3	.08,6	.08,3	.08,3	.07,9
Peru	Silver sol	.42,7	.43,6	.43,8	.48,7	.....	.....	.....	.....

*The "British dollar" has the same legal value as the Mexican dollar in Hongkong, the Straits Settlements, and Labuan.

†The sovereign is the standard coin of India, but the rupee is the money of account.

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FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalents.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	....do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovets	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do*	Japan	1.31 pounds.
Do	Java, Siam, and Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chetvert	Russia	5.7748 bushels.
Chih	China	14 inches.

*More frequently called "kin." Among merchants in the treaty ports it equals 1.33⅓ pounds avoirdupois.

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Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Frasila	Zanzibar	35 pounds.
Fuder	Luxemburg	264.17 gallons.
Funt	Russia	0.9028 pound.
Garnic	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	6 feet.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Koku	Japan	4.9629 bushels.
Korree	Russia	3.5 bushels.
Kwan	Japan	8.28 pounds.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	113⅓ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Spain	1.0144 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.

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Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅞ acres.
Do	Nicaragua and Salvador	1.727 acres.
Marc	Bolivia	0.507 pound.
Maund	India	82⅔ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Milla	Nicaragua and Honduras	1.1493 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.82838 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands	137.9 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Spain	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile,* Chile, Mexico, and Peru	101.41 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¾ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	0.02451 acres.
Seer	India	1 pound 13 ounces.
Shaku	Japan	11.9305 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Sun	Japan	1.193 inches.
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.

*Although the metric weights are used officially in Spain, the Castile quintal is employed in commerce in the Peninsula and colonies, save in Catalonia; the Catalan quintal equals 91.71 pounds.

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Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	Sweden	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Central America	32.87 inches.
Do	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Spain	0.914117 yard.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (1,000 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.

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Meter equals 39.37 inches.
Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acre.

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CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

Vol. LXVIII. JANUARY, 1902. No. 256.

TARIFF OF AUSTRALIA.

Consul-General Bray sends from Melbourne, October 12, 1901, copy of the customs tariff of the Commonwealth of Australia, which went into operation October 8, 1901.* Mr. Bray says:

It will be some time before the tariff passes the Federal Parliament. The schedules, however, take effect on the day of introduction into Parliament, October 8, 1901, and duties will be required to be paid in accordance therewith. If, however, any schedule should be amended or modified in any manner before the final passage of the tariff bill, the importer will be compelled to pay any increases and will receive any reductions made.

The text follows:

THE TARIFF.

To come into operation on the 8th of October, 1901, at 4 p. m., Victorian time.

All goods to be free if not included among dutiable goods.

All imitations to be dutiable at the rate chargeable on the goods they imitate, unless such rate is less than the rate which would otherwise be chargeable on the imitations.

"Proof" or "proof spirit" means spirit of a strength equal to that of pure ethyl alcohol compounded with distilled water so that the resultant mixture at a temperature of 60° F. has a specific gravity of 0.9198 as compared with that of distilled water at the same temperature.

"N. e. i." means "not elsewhere included."

"Departmental by-law" means by-law made by the minister, and published in the Gazette.

"Proclamation" means proclamation by the Governor-General published in the Gazette.

* Copy also transmitted by Consul Baker, of Sydney, October 15, 1901.

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Import duties.

Dutiable goods.	Duty.		Special exemptions.
Division I.—Stimulants.			
1. Ale, porter, and other beer, cider, and perry, containing not less than 2 per cent of proof spirit, viz: *	*s. d.*		
In bottle.....per gallon...	1 6	$0.365	
Other .....do.....	1 0	.243	
2. Spirits, viz:			
Spirits† and spirituous compounds, n. e. i., when not exceeding the strength of proof, per gallon.	14 0	3.406	
When exceeding the strength of proof, per proof gallon.	14 0	3.406	
Amylic alcohol and fusel oil, per gallon.	14 0	3.406	
Methylated and collodion, per gallon.	3 0	.729	
Perfumed and bay rum...per gallon...	25 0	6.08	
3. Wine, fermented, viz:			
Sparkling.....per gallon‡...	12 0	2.92	
N. e. i. (including medicinal or medicated and vermuth)—			
In bottle.....per gallon §...	8 0	1.96	
Other .....do.....	6 0	1.46	
Containing more than 35 per cent of proof spirit, per gallon.	14 0	3.406	
Division II.—Narcotics.			
4. Opium, including as regards smoking opium the weight of the immediate containing package, per pound.	20 0	4.87	
5. Tobacco, viz:			
Manufactured, including the weight of tags, labels, and other attachments, per pound.	3 6	.85	Tobacco destroyed for manufacture of sheep wash or other purposes under departmental by-laws.
Unmanufactured.....per pound...	3 6	.85	
Unmanufactured, but entered to be locally manufactured into tobacco, cigars, or cigarettes, to be paid at the time of removal to the factory, per pound.	1 6	.365	
Cigars, including the weight of bands and other attachments.	(‖)	(‖)	
Cigarettes, including the weight of the outer portion of each cigarette, per pound.	6 6	1.58	
Snuff.....per pound...	6 6	1.58	
Division III.—Sugar.			
6. Glucose.....per cwt...	8 0	1.95	
7. Sugar, viz:			
The produce of sugar cane, including molasses, golden sirup, and sirups, n. e. i., per cwt.	6 0	1.46	
Other.....per cwt...	10 0	2.43	

*6 reputed quarts or 12 reputed pints to be charged as 1 gallon.

†Case spirits, in cases of 2 gallons or under, to be charged as 2 gallons; over 2 gallons, and not exceeding 3 gallons, as 3 gallons; over 3 gallons, and not exceeding 4 gallons, as 4 gallons; and so on, a full gallon being charged for any part of a gallon in excess of the last full gallon.

‡3 magnums, 6 reputed quarts, 12 reputed pints, or 24 reputed half pints to be charged as 1 gallon.

§6 reputed quarts, 12 reputed pints, or 24 reputed half pints to be charged as 1 gallon.

‖5s. 6d. ($1.34) per pound and 15 per cent ad valorem.

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Import duties—Continued.

Dutiable goods.	Duty.		Special exemptions.
Division IV.—Agricultural products and groceries.	*s. d.*		
8. Animals, living, viz: Cattle, sheep, pigs, and poultry, ad valorem.	20 per ct.	.....	Cattle, sheep, pigs, and poultry for the improvement of breeds, subject to departmental by-laws.
9. Arrowroot.....per pound...	0 1	$0.243	
10. Bacon and hams, partly or wholly cured, per pound.	0 3	.06	
11. Biscuits.....per pound...	0 1½	.03	
12. Blue, laundry.....do.....	0 2	.04	
13. Broom-corn millet.....per cental...	4 0	.97	
14. Butter and cheese.....per pound...	0 3	.06	
15. Candles, tapers, and night lights; solid spirit heaters, including the weight of the immediate containing package; stearin, paraffin wax, beeswax, and Japanese or vegetable wax; also lard and refined animal fats, per pound.	0 1½	.03	
16. Cocoa beans.....per pound...	0 1	.02	
17. Cocoa and chocolate, ground or in any way manufactured, or with milk or other substance, cocoa butter, caramel and caramel butter; confectionery, n. e. i., including bonbons and mixed packets of confectionery containing trinkets (gross weight), sugar candy, cachous, and fruits crystallized or candied.	(*)	(*)	
18. Coffee and chicory, viz:			
Raw.....per pound...	0 3	.06	
Kiln dried, roasted, or ground, in liquid form, or with milk or other substance, per pound.	0 5	.10	
19. Eggs.....per dozen...	0 6	.12	
20. Fish, fresh, viz, oysters.....per cwt...	2 0	.486	
21. Fruits and vegetables, viz:			
Fruits, dried, viz—			
Currants.....per pound...	0 2	.04	
Raisins and other, including peel and ginger preserved (not in liquid), per pound.	0 3	.06	
Vegetables, dried or concentrated, ad valorem.	20 per ct.		
Fruits and vegetables, n. e. i. (preserved in liquid, or partly preserved, or pulped—			
Half pints and smaller sizes, per dozen.	0 9	.18	
Pints and over half pints, per dozen.	1 6	.365	
Quarts and over pints...per doz...	3 0	.73	
Exceeding a quart...per gallon...	1 0	.243	
Fruits and vegetables, n. e. i., per cental.	2 0	.486	
22. Grain and pulse, n. e. i.....per cental ..	1 6	.365	

* 3d. (4 cents) per pound and 15 per cent ad valorem.

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Import duties—Continued.

Dutiable goods.	Duty.		Special exemptions.
Division IV.—Agricultural products and groceries—Continued.			
23. Grain and pulse, prepared or manufactured, viz:	*s. d.*		
Oatmeal, rolled oats, groats, wheat meal, pearl barley, Scotch barley, maizena, corn flour, per pound.	0 1	$0.02	
Bran, pollard, and sharps, per cental.	1 0	.243	
N. e. i.....per cental...	2 6	.608	
24. Hay and chaff.....per cwt...	1 0	.243	
25. Honey, jams, and jellies; also preserved ginger in liquid (including the weight of liquid), per pound.	0 2	.04	
26. Hops.....per pound...	0 6	.12	
27. Lime juice and other fruit juices and fruit sirups (nonspirituous), per gallon.	1 0	.243	
28. Linseed.....per cental...	2 0	.486	
29. Linseed meal.....do.....	4 0	.97	
30. Linseed cake and oil cake.....do.....	1 0	.243	
31. Licorice, viz:			
Crude.....per pound...	0 1	.02	
Other.....do.....	0 2	.04	
32. Macaroni and vermicelli.....do.....	0 1	.02	
33. Malt, including granulated, maize, and rice malts, per cental.	6 0	1.46	
34. Malt extract, nonspirituous..per pound...	0 2	.04	
35. Matches and vestas, viz:			
For each 100 matches or part thereof—			
Wax.....per gross...	1 0	.243	
Wood or other.....do.....	0 6	.12	
36. Meats, fish, poultry, and game, viz:			
Fresh or preserved by cold process, per pound.	0 1	.02	
Potted or concentrated, including extracts of, and caviare, ad valorem.	20 per ct.		
Preserved in tins or other air-tight vessels, including the weight of contents; also sausage casings, per pound.	0 2	.04	
N. e. i.....per cwt...	5 0	1.22	
37. Milk, preserved.....per pound...	0 1½	.03	
38. Mustard seed.....do.....	0 2	.04	
39. Mustard.....do.....	0 4	.08	
40. Nuts, edible, viz:			
Cocoanuts, whole.....per cwt...	1 0	.243	Copra.
N. e. i., whole or prepared, including cocoanuts, prepared, per pound.	0 2	.04	
41. Oilmen's stores, n. e. i., including infants' and invalids' foods (special preparations of), culinary essences nonspirituous, soap dyes, condition foods, and other preparations used in the household, whether otherwise exempted or not, when in packages for retail sale, ad valorem.	20 per ct.	.....	Annotto, liquid and solid. Isinglass. Rennet liquid, in packages of not less than half a pint.
42. Onions.....per cwt...	1 0	.243	
43. Peel, drained or preserved in brine, acid, or water, including the weight of liquid, per pound.	0 1	.01	

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Import duties—Continued.

Dutiable goods.	Duty.		Special exemptions.
Division IV.—Agricultural products and groceries—Continued.			
44. Pickles, sauces, chutneys, olives, and capers:	*s. d.*		
Quarter pints and smaller sizes, per dozen.	0 6	$0.12	
Half pints and over quarter pints, per dozen.	1 0	.243	
Pints and over half pints..per dozen...	2 0	.486	
Quarts and over pints.....do.....	4 0	.97	
Exceeding a quart.....per gallon...	1 4	.324	
45. Potatoes.....per cwt...	1 0	.243	
46. Rice, viz:			
Uncleaned .....per cental...	5 3	1.27	
For manufacturing starch, under departmental by-laws, per cental..	6 3	1.52	
N. e. i.....per cental...	8 4	2.03	
47. Sago and tapioca.....do.....	4 0	.97	
48. Salt, n. e. i.....per ton...	20 0	4.86	Salt, brown rock. Manures.
49. Seed, canary, hemp, and rape, ad valorem.	15 per ct.		
50. Soap, viz:			
Perfumed, toilet, and medicated (including the weight of wrappers), per pound.	0 4	.08	
N. e. i., including polishing, per pound.	0 1	.02	
51. Spices, viz:			
Unground, n. e. i., including green ginger, per pound.	0 2	.04	
Ground, n. e. i.....per pound...	0 4	.08	
52. Starch and starch flours, including rice meal, and rice, tapioca, and potato flours, per pound.	0 2	.04	
53. Straw.....per ton...	5 0	1.216	
54. Table waters, aërated or mineral, and preparations packed for household use for the production thereof, including sparklets; also ale, porter, and other beer, cider, and perry containing less than 2 per cent of proof spirit, ad valorem.	20 per ct.		
55. Tea.....	(*)	(*)	
Tea in packets.....	(†)	(†)	
56. Wine, unfermented.....per gallon...	3 0	.73	
Division V.—Apparel and textiles.			
57. Apparel and attire and articles n. e. i.:			
Woolen or silk, or containing wool or silk, partly or wholly made up (not being piece goods), including articles cut into shape, ad valorem.	25 per ct.	.....	Apparel and attire, minor articles for: Bindings and stay and boot laces (except of leather), braids, buckles and buttons (not for adornment), busk and stay fasteners, protectors, and shields, bodice and skirt steels, ferretings, filletings, gimps, hooks and eyes, tapes, webs, waddings, webbing, wire, and wire ribbon. Diving dresses.
Not containing wool or silk, partly or wholly made up (not being piece goods), including articles cut into shape, ad valorem.	20 per ct.		

* 2d. (4 cents) per pound and 20 per cent ad valorem.
† 3d. (6 cents) per pound and 20 per cent ad valorem.

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Import duties—Continued.

Dutiable goods.	Duty.		Special exemptions.
Division V.—Apparel and textiles—Cont'd.			Bags and sacks, viz: Bran, corn, flour, gunnies, ore, sugar mats, wool packs. Elastic stockings, surgical. Meat wraps, made up or in the piece.
	s. d.		
58. Blankets, blanketing, rugs, lap dusters, and rugging; carpets, carpeting, floor cloths, and mats, n. e. i., floor coverings (including felts and pads), and carriage mats; curtains, cosies, cushions, mantel and furniture drapery and coverings, bed covers and furnishings, n. e. i., whether partly or wholly made up; frillings, rufflings, tucked lawns, pleatings, and ruchings, ad valorem.	20 per ct.		
59. Fur and other skins, dressed or prepared, and hatter's fur, ad valorem.	15 per ct.		
60. Gloves, including mittens and flesh gloves, ad valorem.	20 per ct.		
61. Hats and caps, viz:			
Men's, women's, boys' and children's felt hats.	(*)	(*)	
Dress hats.....per dozen...	48 0	$11.68	
Hats and caps, sewn.....do.....	3 0	.73	
62. Hats, caps, and bonnets, n. e. i., hat and bonnet shapes, felt pullover hoods, and wigs and other articles of natural or artificial human hair, ad valorem.	20 per ct.	.....	Hats, miners'. Hats, minor articles for: Buckles, not for adornment. Plaits, plain. Helmets, firemen's.
63. Parasols, sunshades, and umbrellas, viz:			
Containing silk.....	(†)	(†)	Parasols, sunshades, and umbrellas, minor articles for: Cups, ferrules, notches, ribs, rings and runners.
N. e. i.....	(‡)	(‡)	
64. Piece goods, viz:			
Woolen, or containing wool, n. e. i., ad valorem.	20 per ct.	.....	Felt sheathing, bunting.
Shirtings (fancy), n. e. i., coatings, vestings, trouserings, n. e. i., flannels, and flannelettes, ad valorem.	20 per ct.		
Silk, or containing silk, or having silk worked thereon.	15 per ct.	.....	Milling silk.
Velvets, velveteens, plushes, ribbons, galloons, lace, lace flouncings, millinery nets, and veilings, all kinds and materials, ad valorem.	15 per ct.		
Cottons and linens, viz, blue frocking, butter and cheese cloth, calico, white and gray, drills, duck, dungaree, jeans, moleskins, oil baize, leather cloth, sheetings (including forfar, dowlas, and flax), shirtings, white, and Oxford, Cambridge, and Harvard, ticks, towelings, window nets, and hollands, ad valorem.	10 per ct.	.....	Cotton and linen piece goods, viz: Italians, Silesias, linings, n. e. i., pocketings, flax paddings, buckrams, French canvas, wick, lamp, and candle. Hair cloth and hop cloth.
Cotton and linen piece goods, n. e. i., ad valorem.	15 per ct.	.....	Canvas, hessians, and brattice cloth.

* 10s. ($2.47) per dozen and 15 per cent ad valorem.
† 1s. 6d. (36.4 cents) each and 15 per cent ad valorem.
‡ 6d. (12 cents) each and 15 per cent ad valorem.

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Import duties—Continued.

Dutiable goods.	Duty.		Special exemptions.
Division V.—Apparel and textiles—Cont'd.	*s. d.*		
65. Tents, tarpaulins, sails, and flags, ad valorem.	20 per ct.		
66. Trimmings, mantle dress bonnet and hat n. e. i., including flowers, feathers, and embroideries in the piece, ad valorem.	15 per ct.		
67. Yarns, partly or wholly of wool ("wool" or "woolen" includes all manufactures from wool, hair, or fur), ad valorem.	15 per ct.	.....	Yarn, angora.
Division VI.—Metals and machinery.			
68. Ammunition, viz, shot, bullets, and slugs, per cwt.	7 6	$1.82	
69. Arms, viz, rifles, n. e. i., shotguns, revolvers, pistols, air guns and air pistols, bayonets, swords, fencing foils and masks, gun, revolver, and pistol covers, cases, and fittings, loading tools, and cartridge belts, ad valorem.	15 per ct.	.....	Arms, viz, rifles, military and match.
70. Iron, plate and sheet,* viz:			
Plain galvanized.....per ton...	15 0	3.65	
Corrugated galvanized.....do.....	30 0	7.30	
71. Lamps and lamp ware, n. e. i., and lanterns and lamp stoves and all parts thereof (except chimneys, shades, and globes, gasaliers, and electroliers), ad valorem.	20 per ct.		
72. Lead, sheet and piping.....per cwt...	2 6	.608	
73. Mangles, clothes wringers, and washing machines, ad valorem.	20 per ct.		
74. Manufactures of metal, viz:			
Agricultural, horticultural, and viticultural machinery and implements, n. e. i., including moldboards, shares, and plow plates cut to shape, sheep-shearing machines, horse gears; engines, portable, fixed on a locomotive boiler horizontally, with wheels and shafts suitable for transport, traction and oil engines, and road-making plows and machines, ad valorem.	15 per ct.	.....	Apparatus, diving. Crucibles. Engines, fire. Machinery (not including motive power, engine combination, or power connections, if any), viz: Cream separators and testers. Knitting. Linotype and monotype. Machinery for scouring, washing, carding, spinning, weaving, and finishing the manufacture of fibrous materials. Machinery for the manufacture of paper and for felting. Printing machinesand presses, and machinery used exclusively for and in the actual process of electrotyping and stereotyping. Sewing-machine heads. Stitching machines. Typewriters, not including stands or cases.

*To continue only until the coming into force of "Division VI*a*, Metals."

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Import duties—Continued.

Dutiable goods.	Duty.		Special exemptions.
Division VI.—Metals and machinery—Continued.			Machinery, etc.—Continued.
			Machine tools used in the following industries and specified in departmental by-laws: Apparel and attire making, bookbinding, bootmaking, brush making, glass making and working, hat making, india-rubber working, leather dressing, metal working, paper cutting, finishing and folding, stone working, tile, pipe, and brickmaking, woodworking.
74. Manufactures of metal, viz—Continued.	*s. d.*		Metals and manufactures of metal:
Cutlery, n. e. i., (including manicure sets and knife sharpeners); also instruments, drawing, mathematical, and surveying, ad valorem.	15 per ct.	.....	Aluminum, bronze, yellow metal, Britannia metal, nickel, and German silver, viz: Pigs, ingots, scraps, blocks, bars, strips, sheets, and plates.
Nails, n. e. i., viz--			
Horseshoe or other pressed nails, per cwt.	7 0	$1.70	Anchors, over 10 cwts.
Wire and other, and spikes, staples, brads, and tacks, per cwt.	3 0	.73	Anodes and hooks for plating purposes.
Tanks, containing goods or empty, for every 100 gallons or part thereof.	3 0	.73	Brass, viz: Scrap, bars, sheets, pipes, and tubes.
			Capsules, metallic.
Weighing machines, weighbridges, and scales, n. e. i., also cash registers, computing machines, and attachments, ad valorem.	20 per ct.		Chain in the piece.
			Copper, viz: Scrap, bars, sheets, pipes, and tubes, prepared plates for engravers and lithographers.
N. e. i., including engines, boilers, pumps, machines, and machinery, n. e. i.; also screws n. e. i., axles, springs, and plated and mixed metal ware, including plated cutlery, ad valorem.	25 per ct.		Cylinders for anhydrous ammonia.
			Disks, plow and harrow.
			Electrical materials, viz: Accumulators or storage batteries, except glass jars, cable (covered), carbons, incandescent lamps, testing meters and instruments.
			Eyelets.
			Fire extinguishers, hand.
			Iron and steel tubes or pipes (except riveted or cast) under 6 inches internal diameter, including flexible metal tubes.
			Lamps, miners' safety.
			Last thimbles and block fasteners.
			Leaf and foil.
			Locks, door, including knobs, keys, and escutcheons.
			Pins, viz: Gimp, solid-headed short toilet, plain wire hair, plain safety.
			Platinum, viz: Bars, strips, sheets, plates, retorts, pans, condensers, tubing, or pipes.
			Rabbit traps.

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Import duties—Continued.

Dutiable goods.	Duty.	Special exemptions.
Division VI.—Metals and machinery—Continued.		Metals, etc.—Continued. Scales, viz: Chemical, analytical, and assay. Scrap iron and steel.* Screws, table and music stool. Steel, band or ribbon for making band saws or band knives. Steel, rough-shaped, for chaff cutter and other knives. Tin plates, plain. Tools of trade, not being machines, viz: Adzes, axes, hatchets, tomahawks, and cleavers, augers and auger bits, awls and awl hafts, bevels, braces and bits, braces (ratchet), bruzzers, bung borers, cards (file and wool), chisels (except cold and plugging) and gouges, clamps, combs (graining), compasses, viz, carpenters', coopers', and engineers', cutters (bolt, glass, miter, and pipe), diamonds (glaziers'), drills, files, and rasps, forks (digging, hay, stable, and tanners'), gauges (carpenters' and millwrights'), gimlets, hammers (except napping, spalling, quartz, coal, brick, and sledge), hoes (garden and plantation), irons, hatters', Italian, smoothing, cloth manufacturers' and tailors', jewelers' tools, knives (hay), needles and bodkins, pincers and nippers (end cutting), planes, pliers, punches, rakes (hand), routers (wheelwrights'), rules, tapes, and chains (measuring), saddlers' tools, viz, rein rounders, claw, carving, French edge, and patent leather tools, wheels and rosette cutters; saws, screw-drivers, scythes, sets (rivet and saw), shears, viz, brushmakers', garden, printers', sheep, and tinsmiths'; shovels and spades, sickels, snips (tinsmiths'), spatulas, spirit levels, spoke shaves, shaves, and spoke trimmers, squares, stock and dies and taps for same, trowels, vises, wrenches, screw (except cycle).

*To continue only until the coming into force of "Division VI*a*, Metals."

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Import duties—Continued.

Dutiable goods.	Duty.		Special exemptions.
Division VI.—Metals and machinery—Continued.			Metals, etc.—Continued. Washers and rivets. Wire, n. e. i., wire netting, wire cloth, wire gauze. Zinc, scrap and sheet, and circles and ingots bored or unbored for cyanide gold process.
	s. d.		
75. Rails, fish plates, tie plates, switches, points, crossings, and intersections for railways and tramways, ad valorem.	15 per ct.		
76. Rolled iron or steel beams, channel joists, girders, columns, trough and bridge iron or steel, not drilled or further manufactured; shafting, cold rolled, turned, or planished; also bolts and nuts and barbed wire, ad valorem.	20 per ct.		
*Division VIa.—Metals and machinery.**			
77. Iron and steel:			
Scrap iron and steel and pig iron, ad valorem.			
Ingots, blooms, slabs, billets, puddled bars and loops, or like crude manufactures less finished than iron or steel bars, but more advanced than pig iron (except castings), ad valorem.	10 per ct.		
Bar, rod, angle, tee, sheet, plate, and hoop, except galvanized plate and sheet, ad valorem.			
Galvanized plate and sheet, viz –			
Plain .....ad valorem...	10 per ct.		
Corrugated .....do.....	15 per ct.		
Machinery—			
Reapers and binders.....do	15 per ct.		
Other machinery referred to in proclamation, ad valorem.	15 per ct.		
Division VII.—Oils, paints, and varnishes.			
78. Blacking, including dressings, soaps, oils, inks, pastes, polishes, stains, and varnishes for leather; Berlin and Brunswick blacks, furniture oil, paste and polish, and bronzing and metal liquids, ad valorem.	20 per ct.		
79. Greases, axle, and thickened or solidified oils; solid or viscous compounds for lubricating, and tallow, unrefined, per cwt.	4 0	$0.97	
80. Oils, viz:			
Cotton seed, in bulk or otherwise, per gallon.	2 0	.486	
Including castor, in vessels not exceeding 1 gallon—			
Quarter pint and smaller sizes, per dozen.	0 6	.12	
Half pints and over quarter pints, per dozen.	1 0	.243	

*To come into operation on dates to be fixed by proclamation; and, except as to galvanized plate and sheet iron, exempt from duty in the meantime. Proclamation to issue so soon as it is certified by the minister that the manufacture of iron or of reapers and binders, or of any machinery to which the proclamation refers has been sufficiently established in the Commonwealth, according to the provisions of any law relating to bonuses for the encouragement of manufactures.

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Import duties—Continued.

Dutiable goods.	Duty.		Special exemptions.
***Division VII.—Oils, paints, and varnishes*—Continued.**			
80. Oils, viz—Continued.			
Including castor, etc.—Continued.	*s. d.*		
Pints and over half pints, per dozen.	2 0	$0.486	
Quarts and over pints..per dozen...	4 0	.97	
Over a quart.....per gallon...	1 4	.324	
In vessels exceeding 1 gallon, viz—			
Olive.....per gallon...	1 4	.324	Oil, viz: Fish, including cod (unrefined), seal, whale, penguin, petroleum (crude), degras, sod, naphtha, benzine, mirbane, and turpentine.
Castor, china, colza, linseed, gasoline, mineral spirit oils, n. e. i., and cotton seed when methylated pursuant to departmental by-laws, per gallon.	0 6	.12	
Lubricating (mineral), mineral n. e. i., and kerosene, per gallon.	0 3	.06	
N. e. i.....per gallon...	0 6	.12	
81. Paints and colors, viz:			
Ground, in liquid, partly or wholly prepared for use.	(*)	(*)	
Colors dry, dry white lead, and patent driers and putty, per cwt.	1 0	.243	Colors, artists'.
82. Varnishes, varnish stains, lacquers, enamels, japans, liquid sizes, patent knotting, oil and wood finishes, petrifying liquids, damp wall compositions, and lithographic varnish.	(†)	(†)	Dyes, dry, not packed for retail sale. Lamp, ivory, bone, and vegetable blacks. London purple and paris green. Sulphate of copper. Ultramarine blue. Whiting.
Division VIII.—Earthenware, cement, china, glass, and stone.			
83. Cement, Portland, plaster of paris, and other like preparations having magnesia or sulphate of lime as a basis, also gypsum, not prepared, per cwt.	1 0	.243	
84. China, parian, and porcelain ware, and mosaic flooring, ad valorem.	20 per ct.		
85. Earthenware, brown ware, and stoneware, n. e. i., and tiles, n. e. i.	(‡)	(‡)	Earthenware, viz, spurs, stilts, and thimbles.
86. Filters of all kinds, fire and glazed bricks, fire lumps, fire-clay manufactures, n. e. i., asphalt and roofing tiles, ad valorem.	15 per ct.		
87. Glass, viz, bent, beveled, heraldic, sand blasted, enameled, embossed, etched, silvered, and cut; corners cut, beveled, or engraved; panes, prisms, and all other framed with metal, ad valorem.	20 per ct.		
88. Glass, n. e. i.; also seltzogenes and accessories and siphon bottles, ad valorem.	15 per ct.	.....	Glass, viz, lenses, unmounted, locket, brooch, and watch glasses. Bottles, empty, of not more than 6 fluid drams capacity.

* 1s. (24.3 cents) per cwt. and 15 per cent ad valorem.

† 1s. (24.3 cents) per gallon and 15 per cent ad valorem.

‡ 6d. (12 cents) per cubic foot (measuring outside the packages as imported) and 15 per cent ad valorem.

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Import duties—Continued.

Dutiable goods.	Duty.		Special exemptions.
Division VIII.—Earthenware, cement, china, glass, and stone—Continued.	s. d.		
89. Glassware, n. e. i.....	(*)	(*)	Scientific instruments and apparatus, viz: Instruments for measuring the density of liquids. Scientific apparatus (glass) viz: Beakers, flasks, test tubes, vacuum tubes, burettes, pipettes, weighing bottles and tubes, eudiometers, nitrometers, radiometers, fat-extraction tubes, filter pumps, gas washing, reduction and absorption bulbs and tubes, test measures in centimeters and grains; also carbonic acid, sulphureted hydrogen, decomposing water, and bacteriological apparatus of glass.
90. Glue, not liquid, and gelatin, sheet, per pound.	0 2	$0.04	
91. Glue, gelatin, and cements, n. e. i., including mucilage and printers' roller composition, ad valorem.	20 per ct.	.....	Dry gums, shellac, dextrin, sandarach, and mastic.
92. Stone, including marble and slate, viz:			
Monumental, wrought†.....	(‡)	(‡)	Bath bricks.
Wrought, n. e. i.....ad valorem...	20 per ct.		Oil and whet stones, grindstones, and millstones.
Roofing slate and unwrought slate slabs, ad valorem.	15 per ct.		Pestles and mortars, agate. Stone, viz, sawn or in the rough, n. e i.
Division IX.—Drugs and chemicals.			
93. Acetic acid, extract or essence of vinegar, and vinegar:			
Containing not more than 6 per cent of absolute acid, per gallon.	0 6	.12	
Containing more than 6 per cent, but not more than 30 per cent, per gallon.	2 6	.365	
For every extra 10 per cent or part of 10 per cent, per gallon.	0 10	.204	
94. Acids, viz, muriatic, nitric, and sulphuric, ad valorem.	15 per ct.		
95. Carbonate of ammonia and carbide of calcium, per cwt.	5 0	1.22	
96. Drugs and chemicals, viz, salicylic and boric acids, bisulphites of potassium, sodium, calcium, and magnesium; foaming powders and liquids, and malt and hops substitutes, ad valorem.	20 per ct.		
97. Insecticides, sheep washes, and disinfectants, n. e. i., ad valorem.	15 per ct.		

* 8d. (16 cents) per cubic foot (measuring outside the packages as imported) and 15 per cent ad valorem.

† For purposes of measurement, each stone shall be considered a rectangular solid corresponding in measurement to the extreme length, width, and height of the stone measured.

‡ 5s. ($1.216) per cubic foot and 15 per cent ad valorem.

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Import duties—Continued.

Dutiable goods.	Duty.		Special exemptions.
Division IX.—Drugs and chemicals—C't'd.	*s. d.*		
98. Medicines, viz, patent and proprietary medicines, and other medicinal compounds; nonspirituous medicinal extracts, essences, juices, infusions, solutions, and sirups; pills, pilules, tabloids, tablets, capsules, cachets, suppositories, plasters, poultices, salves, ointments, liniments, nonspirituous, powders, pastes, medicated confectionery, medicinal waters and oils, n. e. i.; and medicines for animals, ad valorem.	25 per ct.	.....	Essential oils, nonspirituous. Bacteriological products and serum.
99. Perfumery, including perfumed ammonia, camphor in blocks or tablets, toilet preparations, nonspirituous, perfumed or not; lanolin, glycerin, vaseline, and petroleum jelly not medicated, ad valorem.	20 per ct.		
100. Saccharine .....per pound...	20 0	$4.87	
101. Soda crystals.....per cwt...	1 0	.243	
Division X.—Wood, wicker, and cane.			
102. Furniture, n. e. i. (except metal), in parts or finished, including billiard and bagatelle tables and boards and accessories, photograph frames and stands for pictures, picture frames (on pictures or otherwise), and picture moldings, cabinets, brackets, trays, veranda blinds, screens, hair curled, show figures for draping or other purposes, writing and stationery cases, writing desks, and mirrors, framed or set, ad valorem.	20 per ct.	.....	Billiard balls in the rough. Furniture, minor articles for: Bindings (except leather), buttons, castors, ferrets, gimps, lace (float and orris), tufts, and fringes.
103. Timber, viz:			
Architraves, moldings, and skirtings of any material, per 100 lineal feet.	5 0	1.22	Timber, viz: Undressed— Ash. Hickory. Oak. Walnut. Elm hubs, with or without metal bands. Engravers' boxwood. Logs, not sawn. New Zealand pine, undressed, of sizes 12 inches by 6 inches (or its equivalent) or over. Shafts and poles, sawn or bent, but not dressed. Spars in the rough. Spokes, rims, and felloes of hickory, in the rough. Staves, undressed or roughly dressed, but not shaped. Veneers.
Timber, dressed, n. e. i., per 100 superficial feet.	3 0	.73	
Timber, undressed, n. e. i., in sizes of 12 inches by 6 inches (or its equivalent) and over, per 100 superficial feet.	1 0	.243	
Timber, undressed, n. e. i., in sizes of 7 inches by 2½ inches (or its equivalent) and upwards, and less than 12 inches by 6 inches (or its equivalent) and upwards, and less than 12 inches by 6 inches (or its equivalent), per 100 superficial feet.	1 6	.364	
Timber, undressed, n. e. i., of sizes less than 7 inches by 2½ inches (or its equivalent), per 100 superficial feet.	2 6	.608	
Laths.....per 1,000...	5 0	1.22	
Palings .....do.....	15 0	3.65	
Pickets, dressed.....per 100...	4 0	.97	
Pickets, undressed.....do.....	2 0	.48	

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Import duties—Continued.

Dutiable goods.	Duty.		Special exemptions.
Division X.—Wood, wicker, and cane—Continued.			
103. Timber, viz—Continued.	*s. d.*		
Shingles.....per 1,000...	3 0	$0.73	
Doors of wood—			
1¾ inches and over.....each...	7 6	1.82	
Over 1½ inches and under 1¾ inches, each.	5 0	1.22	
1½ inches and under.....each...	3 6	.85	
104. Wicker, bamboo, cane, or wood, all articles, n. e. i., made of, whether partly or wholly finished, including bellows, casks, shooks, sashes, and frames, timber, bent, n. e. i., wood cut into shape for making boxes or doors, ax and other unattached tool handles, umbrella sticks, walking sticks and canes, ad valorem.	20 per ct.	.....	Wicker, bamboo, cane, or wood, manufactures of, viz: Buckets, wooden. Canes and rattans. Cane, compressed, in sheet and unshaped. Last blocks, rough turned. Lasts and trees, wooden.
Division XI.—Jewelry and fancy goods.			
105. Fancy goods (not being partly or wholly of gold or silver), including card cases, snuff and match boxes, purses, thimbles, serviette rings, button hooks, shoehorns and lifts, glove stretchers, toys, ivory and other ornamental figures, ornamental confectionery, feather dusters, paper parasols, articles used for outdoor and indoor games, fishing appliances, pencil cases, pencils, and penholders, n. e. i., articles manufactured from pulp, papier-maché, or indurated fiber, ad valorem.	20 per ct.	.....	Lead pencils and penholders of wood.
106. Jewelry, viz, chain, machine made in the rough, gallerie, coronets, beads, catches and joints for pins, clasps, points, and brooch pins, ad valorem.	15 per ct.		
107. Jewelry and imitation jewelry, including ornamental hair, hat, and other pins, buckles and clasps for adornment, smelling and pocket perfume bottles, chatelaines, jewel cases, bolt and split rings, swivels, ear wires, bars and stampings used in the manufacture of jewelry; medals and all articles, n. e. i., partly or wholly made up of gold or silver, including gold or silver wire, ad valorem.	25 per ct.	.....	Bullion and coin. Gold and silver, bar, ingot, and sheet. Jewelry, viz, cameos and precious stones, unset.
108. Watches, clocks, and chronometers, n. e. i., and parts thereof, time registers and detectors, opera, field, and marine glasses, pedometers, pocket counters, cinematographs, kinetoscopes, phonographs, graphophones, gramophones, cameras, and magic lanterns, including accessories, ad valorem.	20 per ct.	.....	Ships' compasses. Ships' chronometers. Microscopes, telescopes, spectacles except gold or silver; barometers and thermometers, except advertising, and watch and clock springs.

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Import duties—Continued..

Dutiable goods.	Duty.		Special exemptions.
Division XII.—Leather and rubber.			
109. Boots and shoes, except partly or wholly of lasting or stuff, English sizes to be the standard, viz:	*s. d.*		Boots and shoes, viz, gum boots. Boots and shoes, minor articles for:
Men's sizes above 5	(*)	(*)	Bristles.
Youths' sizes above 1	(†)	(†)	Buckles, not for adornment.
Boys' 7–1	(‡)	(‡)	Nails, viz, bills, sparrow, and other, clog, hob, Hungarian, nugget, pin-point, screw or ice, spike, cricket, running, sprigs, tacks lasting, tips, tingles, and rivets.
Women's sizes above 2	(†)	(†)	
Girls' sizes above 10	(§)	(§)	
Girls' 7–10	(‖)	(‖)	
Slippers, leather	(¶)	(¶)	Pegs and peg wood.
110. Boots and shoes, n. e. i. (including india rubber), goloshes, slippers, n. e. i., boot and shoe uppers and tops, clogs and pattens, wading boots, slipper forms in the piece or otherwise, cork, leather, or other socks or soles, ad valorem.	25 per ct.		
111. Cloths made waterproof with india rubber, ad valorem.	20 per ct.		
112. India rubber or other hose, and manufactures, n. e. i., in which india rubber forms a part, including cycle and vehicle tires, ad valorem.	15 per ct.	.....	India-rubber manufactures, viz, india rubber, crude or powdered, rubber waste, hard rubber in sheets, rubber thread, boot and apparel elastics.
113. Leather manufactures, n. e. i., leather cut into shapes, harness, razor strops, footballs, and parts thereof, and whips, including keepers, thongs, and lashes, ad valorem.	20 per ct.	.....	Belting (composition). Harness, saddles, and whips, minor articles for: Mountings, including hames, bits, and stirrups (not plated), gold, or silver.
114. Leather, n. e. i., including green hide for belting purposes, ad valorem.	15 per ct.	.....	Leather, viz, crust or rough tanned hogskins, goat, and Persian sheep.
Division XIII.—Paper and stationery.			
115. Paper, viz:			Paper, viz:
Manufactures of, unframed, for advertising purposes, including price lists, catalogues, fashion plates, and all printed or lithographed matter for such purposes, per pound.	0 3	$0.06	Emery and flint paper and cloth. Filter paper. Litmus paper. Pulp for manufacturing paper.
White, printing (uncoated), in sizes not less than 20 by 25 inches, ad valorem.	10 per ct.		Roofing, sheathing, and insulating.
Writing, cut less than 16 by 13 inches, and paper, toilet, in rolls or packets, per pound.	0 2	.04	True vegetable parchment for packing butter for export. Sizes 48 by 14 inches, and 48 by 12 inches.
Browns, gray, blue sugar, cartridge, and blotting, per cwt.	6 0	1.46	Writing, in sheets not less than 16 by 13 inches.
Strawboard.....per cwt...	2 0	.486	
Bags.....do.....	7 6	1.82	

* 20s. ($4.86) per dozen pairs and 15 per cent ad valorem.
† 15s. ($3.65) per dozen pairs and 15 per cent ad valorem.
‡ 10s. ($2.43) per dozen pairs and 15 per cent ad valorem.
§ 12s. ($2.92) per dozen pairs and 15 per cent ad valorem.
‖ 9s. ($2.19) per dozen pairs and 15 per cent ad valorem.
¶ 5s. ($1.22) per dozen pairs and 15 per cent ad valorem.

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Import duties—Continued.

Dutiable goods.	Duty.		Special exemptions.
Division XIII.—Paper and stationery—Continued.			
115. Paper, viz—Continued.	*s. d.*		
N. e. i., including cardboard, pasteboard, pulp board, millboard, gray board, leather board, and wood board, cloth-lined boards and paper, floor paper, and paper hangings, ad valorem.	15 per ct.		
Vesta and match boxes, empty, per gross.	0 3	$0.06	
Cards, playing, in sheet or cut, per dozen packs.	3 0	.73	
116. Stationery, manufactured, viz: Advertisements and pictures, framed, for advertising purposes; bill files and letter clips; boxes, cardboard, cut and shaped or finished; mounts for pictures; calendars and almanacs, n. e. i.; date cases and cards; albums, including birthday, scrap, motto, and character; cards and booklets, viz, printers', visiting, menu, programme, wedding, and funeral; Christmas, New Year, Easter, and birthday; scraps, transfers, and paper patterns; inkstands, ink bottles, and ink wells; paper knives, blotters, blotting cases, and pads; billheads and other printed, ruled, or engraved forms of paper, n. e. i., bound or unbound; books, account, betting, check, copy, copying, diary, drawing, exercise, guard, letter, music, memorandum, pocket, receipt, and sketch; envelopes, stationery packets, wrappers for writing paper, memorandum and sketch blocks, memorandum slates and tablets, labels, tags, and tickets, manufactures of paper, n. e. i., including printers' matrices; inks, writing and printing, and ink powders; wax, sealing and bottling, ad valorem.	25 per ct.	.....	Pictures (not being advertising), viz: Autotypes, chromographs, engravings, etchings, oleographs, oil paintings, photographs, photogravures, and water colors. Kindergarten materials. Pens. Maps, charts, and globes. Parchment, cut and uncut. School and drawing slates and slate pencils.
Division XIV.—Vehicles.			
117. Bicycles, tricycles, and similar vehicles; vehicles and parts thereof n. e. i.; cycle parts (except tires), plated, enameled, polished, or otherwise completed, or brazed or permanently joined, including cycle accessories, and motor vehicles, ad valorem.	20 per ct.		
118. Cycle parts n. e. i.....ad valorem...	15 per ct.		
119. Vehicles, viz:			
Barouches, broughams, landaus, victorias, mail phætons, drags, and similar vehicles.	(*)	(*)	
Express wagons, wagons for carrying goods, single or double seated wagons, four-wheeled buggies—mounted on springs or thoroughbraces and without tops.	(†)	(†)	

* £12 ($58.39) each and 15 per cent ad valorem. † £5 ($24.33) each and 15 per cent ad valorem.

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Import duties—Continued.

Dutiable goods.	Duty.		Special exemptions.
Division XIV.—Vehicles—Continued.			
119. Vehicles, viz—Continued.	*s. d.*		
Hansom cabs; also single or double seated wagons, wagonettes, and four-wheeled buggies, with tops.	(*)	(*)	
Omnibuses and coaches for carrying mails or passengers.	(†)	(†)	
Tilburys, dog carts, gigs, Boston chaises, sulkies, and other two-wheeled vehicles—on springs or thorough-braces.	(‡)	(‡)	
Division XV.—Musical instruments.			
120. Musical instruments n. e. i., and pianos, parts of, n. e. i.; musical boxes, pianolas, and other attachments or articles for rendering music by mechanical process, and metronomes, ad valorem.	15 per ct.	.....	Musical instruments, parts of, viz, action work in separate pieces.
121. Organs, pipe.....ad valorem...	20 per ct.		
122. Pianos, viz:			
Grand and semigrand.....	(§)	(§)	
Upright	(‖)	(‖)	
Division XVI.—Miscellaneous.			
123. Bags, baskets, boxes, cases, or trunks, including fittings, viz: Fancy, hand, sporting, traveling, picnic, toilet, dressing, glove, handkerchief, collar, and work; satchels, reticules, valises, and companions, ad valorem.	20 per ct.	.....	Bags, portmanteaus, and trunks (minor articles for)—when not gold, silver, or plated: Buckles, catches for lids, chain links (known also as link holders), clips (fluted), corners, frames, holders for lids, loops for handles or straps, nails (fancy), plates, rollers, stars; catches, handles, hinges, key plates, and ornaments for portfolios.
			Baskets, viz, carpenters'.
124. Boats, launches, and yachts imported in any vessel, including all fittings, ad valorem.	20 per ct.		
125. Brush ware, viz:			
Carpet sweepers, hairbrushes and combs (toilet), and toothbrushes, ad valorem.	15 per ct.		
N. e. i., including brooms, mops, crumb trays, and brushes, ad valorem.	25 per ct.		
126. Coke .....per ton...	4 0	$0.97	
127. Cordage and twines, n. e. i., including Macrame twines, fleece thread, and brush makers' and mattress twines, engine packing in rope form, and halters and other articles manufactured from cord or twine, including nets and netting, ad valorem.	20 per ct.	.....	Cordage, viz: Engine packing in sheet form. Sewing silks, twists, threads, and cottons and crochet cottons. Unserviceable. Metal.
128. Corks, bungs, net floats, cork mats, and other manufactures of cork, ad valorem.	15 per ct.		

* £6 ($29.20) each and 15 per cent ad valorem.
† £9 ($43.80) each and 15 per cent ad valorem.
‡ £3 ($14.60) each and 15 per cent ad valorem.
§ £12 ($58.39) each and 15 per cent ad valorem.
‖ £4 ($19.46) each and 15 per cent ad valorem.

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Import duties—Continued.

Dutiable goods.	Duty.		Special exemptions.
Division XVI.—Miscellaneous—Continued.			
129. Explosives, viz:	*s. d.*		Explosives, viz:
Ammunition and cartridges, n. e i., ad valorem.	20 per ct.	.....	Caps, percussion. Cartridges, military. Detonators.
Fireworks.....ad valorem...	20 per ct.		
Fuse, per coil of 24 feet or less, and in proportion for any greater quantity, per coil.	0 1	$0.02	Powder, blasting, common, of which 20 per cent or less will pass through an 8-mesh sieve.
Powder, sporting.....per pound...	0 4	.08	
N. e. i.....do.....	0 1	.02	Special fuse powder for the manufacture of fuse under departmental by-laws.
130. Photographic dry plates, films, and sensitized paper, ad valorem.	15 per ct.		
131. Pipes, smoking, including cases and other accessories, cigar and cigarette holders and cases, smokers' sets and cases, and tobacco pouches, ad valorem.	20 per ct.		
132. Twine and yarn, viz, reaper and binder, per cwt.	8 0	1.95	

Other special exemptions.

Articles imported by and for the use of the Commonwealth or any State government.

Articles imported by and for the official use of the Governor-General, State governors, and consuls.

Articles imported by and for use of the army or navy, viz: Arms, military and naval clothing, musical instruments for bands, military stores, and munitions of war.

Articles specially designed and imported for the use of the blind, deaf, and dumb, when imported by governing bodies of public institutions having the care thereof.

Minor articles to be specified in departmental by-laws for use in the manufacture of goods within the Commonwealth.

Models of inventions and other improvements in the arts.

Natural history, specimens of.

Outside packages, n. e. i., in which goods are ordinarily imported when containing such goods, and if such goods are free or subject only to fixed duties.

Passengers' personal effects, including furniture and household goods which have been in actual use by such passengers for at least one year, not exceeding £50 ($243.33) in value per adult passenger.

Pictorial illustrations and casts and models for teaching purposes, when imported by governing bodies for the use of universities, colleges, or schools.

Scientific instruments and apparatus imported by governing bodies for use in universities, colleges, schools, or public hospitals.

Surgical and dental instruments and appliances (not being furniture), viz: Amputating, cupping, dissecting, examining, ear, eye, mouth, nose, throat, midwifery, operating, veterinary, lint, gauzes, bandages, ligatures, oil silk, poroplastic felt, splints, and artificial limbs and eyes.

Trophies won abroad.

Works of art, being statuary and paintings, framed or unframed; also windows for churches or public institutions, under departmental by-laws.

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Excise duties.

Dutiable goods.	Duty.	
	s. d.	
133. Beer, viz, ale, porter, and other beer, containing not less than 2 per cent of proof spirit.....per gallon...	0 3	$0.06
134. Spirits, viz:		
Distilled wholly from grape wine, barley malt, molasses, or maize, per proof gallon.....	11 0	2.68
N. e. i.....per proof gallon...	12 6	3.04
For fortifying Australian wine, or making vinegar.....do.....	1 0	.243
Methylated.....per gallon...	0 6	.12
135. Sugar.....per cwt. of manufactured sugar...	*3 0	.73
136. Tobacco, viz:		
Manufactured.....per pound...	1 0	.243
Cigars.....do.....	1 6	.364
Cigarettes, including the weight of the outer portion of each cigarette, per pound.....	2 0	.486
Snuff.....per pound...	2 0	.486

* Until the 1st of January, 1907, less, from the 1st of July, 1902, a rebate to the grower of 4s. (97 cents) per ton on all sugar cane delivered at a factory for manufacture therein, and in the production of which sugar cane white labor only has been employed. The rebate is calculated on cane giving 10 per cent of sugar, and is to be increased or reduced proportionately, according to any variation from this standard.

THE CHINESE PROTOCOL.

[Translation.]

FINAL PROTOCOL

The Plenipotentiaries of Germany, His Excellency M. A. Mumm von Schwarzenstein; of Austria-Hungary, His Excellency M. M. Czikann von Wahlborn; of Belgium, His Excellency M. Joostens; of Spain, His Excellency M. B. J. de Cologan; of the United States, His Excellency M. W. W. Rockhill; of France, His Excellency M. Paul Beau; of Great Britain, His Excellency Sir Ernest Satow; of Italy, His Excellency Marquis Salvago Raggi; of Japan, His Excellency M. Jutaro Komura; of the Netherlands, His Excellency M. F. M. Knobel; of Russia, His Excellency M. M. de Giers; and of China, His Highness Yi-Kuang Prince K'ing of the first rank, President of the Ministry of Foreign Affairs, and His Excellency, Li Hung-chang, Earl of Su-i of the first rank, Tutor of the Heir Apparent, Grand Secretary of the Wen-hua Throne Hall, Minister of Commerce, Superintendent of the Northern Trade, Governor-General of Chihli, have met for the purpose of declaring that China has complied to the satisfaction of the Powers with the conditions laid down in the Note of the 22nd of December, 1900, and which were accepted in their entirety by His Majesty the Emperor of China in a Decree dated the 27th of December 1900. (Annex No. 1)

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ARTICLE I[a]

By an Imperial Edict of the 9th of June, last, (Annex No. 2), Tsai Feng, Prince Chün, was appointed Ambassador of His Majesty the Emperor of China, and directed in that capacity to convey to His Majesty the German Emperor the expression of the regrets of His Majesty the Emperor of China and of the Chinese Government for the assassination of His Excellency the late Baron von Ketteler, German Minister.

Prince Chün left Peking the 12th of July last to carry out the orders which had been given him.

ARTICLE I[b]

The Chinese Government has stated that it will erect on the spot of the assassination of H. E. the late Baron von Ketteler a commemorative monument, worthy of the rank of the deceased, and bearing an inscription in the Latin, German and Chinese languages, which shall express the regrets of H. M. the Emperor of China for the murder committed.

Their Excellencies the Chinese Plenipotentiaries have informed His Excellency the German Plenipotentiary, in a letter dated the 22nd of July, last, (Annex No. 3) that an arch of the whole width of the street would be erected on the said spot, and that work on it was begun the 25th of June, last.

ARTICLE II[a]

Imperial Edicts of the 13th and 21st of February, 1901 (Annexes Nos. 4, 5 and 6), inflicted the following punishments on the principal authors of the outrages and crimes committed against the Foreign Governments and their nationals:

Tsai-I Prince Tuan, and Tsai Lan Duke Fu-kuo, were sentenced to be brought before the Autumnal Court of Assize for execution, and it was agreed that if the Emperor saw fit to grant them their lives, they should be exiled to Turkestan and there imprisoned for life, without the possibility of commutation of these punishments.

Tsai Hsün Prince Chuang, Ying-Nien, President of the Court of Censors, and Chao Shu-Chiao, President of the Board of Punishments, were condemned to commit suicide.

Yü Hsien, Governor of Shanhsi, Chi Hsiu, President of the Board of Rites, and Hsü Cheng-yu, formerly Senior Vice President of the Board of Punishments, were condemned to death.

Posthumous degradation was inflicted on Kang Yi, Assistant Grand Secretary, President of the Board of Works, Hsü Tung, Grand Secretary, and Li Ping-heng, formerly Governor General of Szu-ch'uan.

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An Imperial Edict of February 13th, 1901 (Annex No. 7) rehabilitated the memories of Hsü Yung-yi, President of the Board of War, Li-Shan, President of the Board of Works, Hsü Ching-cheng, Senior Vice President of the Board of Works, Lien Yuan, Vice Chancellor of the Grand Council, and Yuan Chang, Vice President of the Court of Sacrifices, who had been put to death for having protested against the outrageous breaches of International law of last year.

Prince Chuang committed suicide the 21st of February, 1901, Ying Nien and Chao Shu-chiao the 24th, Yü Hsien was executed the 22nd, Chi Hsiu and Hsü Cheng-yu on the 26th. Tung Fu-hsiang, General in Kan-su, has been deprived of his office by Imperial Edict of the 13th of February, 1901, pending the determination of the final punishment to be inflicted on him.

Imperial Edicts dated the 29th of April and 19th of August 1901, have inflicted various punishments on the provincial officials convicted of the crimes and outrages of last Summer.

Article II[b]

An Imperial Edict promulgated the 19th of August, 1901 (Annex No. 8), ordered the suspension of official examinations for five years in all cities where foreigners were massacred or submitted to cruel treatment.

Article III

So as to make honorable reparation for the assassination of Mr. Sugiyama, Chancellor of the Japanese Legation, His Majesty the Emperor of China by an Imperial Edict of the 18th of June 1901 (Annex No. 9), appointed Na Tung, Vice President of the Board of Finances, to be his Envoy Extraordinary and specially directed him to convey to His Majesty the Emperor of Japan the expression of the regrets of H. M. the Emperor of China and of his Government at the assassination of the late Mr. Sugiyama.

Article IV

The Chinese Government has agreed to erect an expiatory monument in each of the foreign or international cemeteries which were desecrated and in which the tombs were destroyed.

It has been agreed with the Representatives of the Powers that the Legations interested shall settle the details for the erection of these monuments, China bearing all the expenses thereof, estimated at ten thousand taels for the cemeteries at Peking and in its neighborhood, and at five thousand taels for the cemeteries in the provinces. The amounts have been paid and the list of these cemeteries is enclosed herewith. (Annex No. 10).

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ARTICLE V.

China has agreed to prohibit the importation into its territory of arms and ammunition, as well as of materials exclusively used for the manufacture of arms and ammunition.

An Imperial Edict has been issued on the 25th of August, 1901, (Annex No. 11), forbidding said importation for a term of two years. New Edicts may be issued subsequently extending this by other successive terms of two years in case of necessity recognized by the Powers.

ARTICLE VI.

By an Imperial Edict dated the 29th of May, 1901 (Annex No. 12), His Majesty the Emperor of China agreed to pay the Powers an indemnity of Four hundred and fifty millions of Haikwan taels.

This sum represents the total amount of the indemnities for States, Companies or Societies, private individuals and Chinese referred to in Article VI of the Note of December 22nd, 1900.

(a) These Four hundred and fifty millions constitute a gold debt calculated at the rate of the Haikwan Tael to the gold currency of each country, as indicated below.

Haikwan Tael=marks	3.055
=Austro-Hungary crown	3.595
=gold dollar	0.742
=francs	3.750
=pound sterling	0.3s 0d
=yen	1.407
=Netherlands florin	1.796
=gold rouble (17.424 dolias fine)	1.412

This sum in gold shall bear interest at 4 per cent. per annum, and the capital shall be reimbursed by China in thirty-nine years, in the manner indicated in the annexed plan of amortization. (Annex No. 13). Capital and interest shall be payable in gold or at the rates of exchange corresponding to the dates at which the different payments fall due.

The amortization shall commence the 1st of January, 1902, and shall finish at the end of the year 1940. The amortizations are payable annually, the first payment being fixed on the 1st of January, 1903.

Interest shall run from the 1st of July, 1901, but the Chinese Government shall have the right to pay off within a term of three years beginning January 1902 the arrears of the first six months ending the 31st of December 1901, on condition, however, that it pays compound interest at the rate of four per cent. per annum on the sums the payments of which shall have thus been deferred.

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Interest shall be payable semi-annually, the first payment being fixed on the 1st of July 1902.

(b) The service of the debt shall take place in Shanghai, in the following manner:

Each Power shall be represented by a delegate on a commission of bankers authorized to receive the amount of interest and amortization which shall be paid to it by the Chinese authorities designated for that purpose, to divide it among the interested parties and to give a receipt for the same.

(c) The Chinese Government shall deliver to the Doyen of the Diplomatic Corps at Peking a bond for the lump sum, which shall subsequently be converted into fractional bonds bearing the signatures of the delegates of the Chinese Government designated for that purpose. This operation and all those relating to issuing of the bonds shall be performed by the above mentioned commission, in accordance with the instructions which the Powers shall send their delegates.

(d) The proceeds of the revenues assigned to the payment of the bonds shall be paid monthly to the Commission.

(e) The revenues assigned as security for the bonds are the following:

1. The balance of the revenues of the Imperial Maritime Customs after payment of the interest and amortization of preceding loans secured on these revenues, plus the proceeds of the raising to five per cent. effective of the present tariff on maritime imports, including articles until now on the free list, but exempting foreign rice, cereals, and flour, gold and silver bullion and coin.

2. The revenues of the Native Customs, administered in the open ports by the Imperial Maritime Customs;

3. The total revenues of the salt gabelle, exclusive of the fraction previously set aside for other foreign loans.

The raising of the present tariff on imports to five per cent. effective is agreed to on the conditions mentioned below. It shall be put in force two months after the signing of the present protocol, and no exceptions shall be made except for merchandise shipped not more than ten days after the said signing.

1. All duties levied on imports *ad valorem* shall be converted as far as possible and as soon as may be into specific duties.

This conversion shall be made in the following manner: The average value of merchandise at the time of their landing during the three years 1897, 1898 and 1899, that is to say, the market price less the amount of import duties and incidental expenses shall be taken as the basis for the valuation of merchandise.

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Pending the result of the work of conversion, duties shall be levied *ad valorem*

2. The beds of the Rivers Peiho and Whangpoo shall be improved with the financial participation of China.

ARTICLE VII

The Chinese Government has agreed that the quarter occupied by the Legations shall be considered as one specially reserved for their use and placed under their exclusive control, in which Chinese shall not have the right to reside and which may be made defensible.

The limits of this quarter have been fixed as follows on the annexed plan: (Annex No. 14)

On the West, the line 1, 2, 3, 4, 5

On the North, the line 5, 6, 7, 8, 9, 10

On the East, Ketteler Street (10, 11, 12)

On the South the line 12.1, drawn along the exterior base of the Tartar Wall and following the line of the bastions.

In the Protocol annexed to the letter of the 16th of January, 1901, China recognized the right of each Power to maintain a permanent guard in the said quarter for the defense of its Legation.

ARTICLE VIII

The Chinese Government has consented to raze the forts of Taku and those which might impede free communication between Peking and the sea; steps have been taken for carrying this out.

ARTICLE IX

The Chinese Government has conceded the right to the Powers in the Protocol annexed to the letter of the 16th of January 1901 to occupy certain points, to be determined by an agreement between them for the maintenance of open communication between the capital and the sea. The points occupied by the Powers are:

Huang-tsun, Lang-fang, Yang-tsun, Tien-tsin, Chun-liang Cheng, Tong-ku, Lu-tai, Tong-shan, Lan-chou, Chang-li, Ch'in-wang Tao, Shan-hai-Kuan.

ARTICLE X

The Chinese Government has agreed to post and to have published during two years in all district cities the following Imperial Edicts:

(a) Edict of the 1st of February, 1901 (Annex No. 15), prohibiting for ever, under pain of death, membership in any anti-foreign society.

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(b) Edicts of the 13th and 21st February, 29th April and 19th August, enumerating the punishments inflicted on the guilty;

(c) Edict of the 19th August, 1901, prohibiting examinations in all cities where foreigners were massacred or subjected to cruel treatment.

(d) Edict of the 1st of February, 1901 (Annex No. 16) declaring all Governors-General, Governors and Provincial or local officials responsible for order in their respective districts, and that in case of new anti-foreign troubles or other infractions of the treaties which shall not be immediately repressed and the authors of which shall not have been punished, these officials shall be immediately dismissed without possibility of being given new functions or new honors.

The posting of these Edicts is being carried on throughout the Empire.

ARTICLE XI

The Chinese Government has agreed to negotiate the amendments deemed necessary by the Foreign Governments to the Treaties of Commerce and Navigation and the other subjects concerning commercial relations with the object of facilitating them.

At present, and as a result of the stipulation contained in Article VI concerning the indemnity, the Chinese Government agrees to assist in the improvement of the courses of the rivers Peiho and Whangpoo, as stated below.

(a) The works for the improvement of the navigability of the Peiho, begun in 1898 with the co-operation of the Chinese Government, have been resumed under the direction of an International Commission. As soon as the administration of Tientsin shall have been handed back to the Chinese Government it will be in a position to be represented on this Commission, and will pay each year a sum of Sixty thousand Haikwan Taels for maintaining the works.

(b) A Conservancy Board, charged with the management and control of the works for straightening the Whangpoo and the improvement of the course of that river is hereby created.

This Board shall consist of members representing the interests of the Chinese Government and those of foreigners in the shipping trade of Shanghai.

The expenses incurred for the works and the general management of the undertaking are estimated at the annual sum of Four hundred and sixty thousand Haikwan Taels for the first twenty years. This sum shall be supplied in equal portions by the Chinese Government and the foreign interests concerned. Detailed stipulations concerning the composition, duties and revenues of the Conservancy Board are embodied in Annex No. 17.

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ARTICLE XII

An Imperial Edict of the 24th of July 1901 (Annex No. 18), reformed the Office of Foreign Affairs, Tsung-li Yamen, on the lines indicated by the Powers, that is to say, transformed it into a Ministry of Foreign Affairs (Wai-wu Pu), which takes precedence over the six other Ministries of State; the same Edict appointed the principal members of this Ministry.

An agreement has also been reached concerning the modification of Court ceremonial as regards the reception of Foreign Representatives and has been the subject of several notes from the Chinese Plenipotentiaries, the substance of which is embodied in a memorandum herewith annexed (Annex No. 19).

Finally, it is expressly understood that as regards the declarations specified above and the annexed documents originating with the Foreign Plenipotentiaries, the French text only is authoritative.

The Chinese Government having thus complied to the satisfaction of the Powers with the conditions laid down in the above mentioned Note of December 22nd, 1900, the Powers have agreed to accede to the wish of China to terminate the situation created by the disorders of the summer of 1900. In consequence thereof the Foreign Plenipotentiaries are authorized to declare in the names of their Governments that, with the exception of the Legation guards mentioned in Article VII, the International troops will completely evacuate the City of Peking on the 17th September, 1901, and, with the exception of the localities mentioned in Article IX, will withdraw from the Province of Chihli on the 22d of September 1901.

The present Final Protocol has been drawn up in twelve identic copies and signed by all the Plenipotentiaries of the contracting countries. One copy shall be given to each of the Foreign Plenipotentiaries, and one copy shall be given to the Chinese Plenipotentiaries.

PEKING, *7th September 1901.*

(Signed) A. v. MUMM
M. CZIKANN
JOOSTENS
B. J. DE COLOGAN
W. W. ROCKHILL
BEAU
ERNEST SATOW
SALVAGO RAGGI
JUTARO KOMURA
F. M. KNOBEL
M. DE GIERS

{ Signatures and seals of Chinese Plenipotentiaries. }

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ADMINISTRATIVE REFORMS IN CHINA.

Minister Conger transmits from Pekin, September 6, 1901, translation of a series of preliminary regulations which have been adopted by the recently organized Board of National Administration. They are interesting, he says, as showing the real purpose of the board to be the reorganization of the Government on more modern and more efficient lines. The sentiments expressed are conservative, but no doubt wisely so, under the circumstances which prevail, and it is plain that there is no intention to imitate the pace set by the reformers of 1898. There is an evident desire to study the methods of the West, and, without adopting Western civilization as a whole, to adapt to Chinese conditions those institutions which may seem likely to add strength to the State.

The regulations read:

REGULATIONS PROPOSED BY THE BOARD OF NATIONAL ADMINISTRATION (ALSO KNOWN AS THE "BOARD OF REFORMS") FOR THE MANAGEMENT OF ITS AFFAIRS.

[Translation from the Pekin Sim-wên Hui Pao—an official paper.]

August 20, 1901.

The following rules were sent from Si-an to the various high provincial authorities, and copied for this journal:

Formerly, the Grand Council had charge of general affairs of state, but there has now been established a separate department, the Board of National Administration, whose leaders are drawn from the Grand Council. To these are added other princes and high ministers. The duties of this board are of the greatest importance, and the whole Empire is anticipating great benefit from its action. It will be necessary for the officials charged with these duties to exert themselves to cope with difficulties and not to shirk trouble nor fly from any ill feeling that may be engendered. Authority for the changes projected is found in the imperial edict of the 16th of the twelfth moon of last year (January 29, 1901).

If metropolitan and provincial officials are really able to be of one mind and by a verification of facts seek to know the truth, is not the conversion of poverty into wealth and of weakness into strength all involved in this? But, if those charged with the management of affairs do not understand, and if those discharging the duties are not diligent, and do not abandon their self-seeking and correct old abuses, although the methods adopted may be excellent, there can be no real gain.

There is the ancient example of Hsi-ning for a warning beacon and the recent events of 1898 to induce caution. These should be deeply pondered and carefully considered. In managing these affairs we ought not to fear difficulty, but we may not be ignorant of the difficulties. In establishing a plan, although we ought not to follow the crowd, we may not refuse to consult with the crowd. To collect the opinions of many has great advantages. To promote public and forget private aims, this is the very foundation. To combine Chinese and Western ideas and harmonize them will be very proper. This is important. Legislation must not be rash, else it can not be carried out. This indicates how we should proceed. To know your men and suit the offices to them, and then see that they complete their

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duties, this is getting home. Now, certain regulations have been proposed for the commencement of this work, as follows:

(1) In our board, under the prince and the ministers, there should be appointed two proctors and eight or ten chiefs of departments, who should be selected in accordance with the imperial edict, which requires them to be men of pure heart and acquainted with affairs. Of metropolitan officials, all under the rank of directors and subdirectors, and of provincials, all under the rank of taotai, down to and including commoners, are eligible for selection. In selecting men for leading positions, we must consider their disposition, character, abilities, and reputation, that the purpose of the Court may be made manifest to employ men of worth without regard to seniority, thus getting rid entirely of the old abuses of favoritism and the coveting of vain reputation.

As to the ceremonies in the intercourse between the higher and lower members of the board, there should be a more strict observance of etiquette than is employed in the various boards and yamêns. The affairs of state (with which our board is concerned) are most weighty, and without worthy men the duties can not be properly discharged, and, having employed them, they ought to be treated with extra respect.

(2) The thousand and ten thousand matters connected with government may all be summed up in this one phrase: Promote prosperity and remove abuses. Prosperity ought to be promoted; that it is not promoted is due to the fact that at the introduction of any unusual method, the black-haired race is frightened, because they like the accustomed, and with difficulty reconcile themselves to the new. Abuses ought to be removed; that they are not removed is because those who practice them find in them a refuge, depend upon them for food and clothing, and if one of their number be removed from office, all make trouble.

Now, having received an imperial edict commanding us to deal with these matters, we ought first of all to get rid of the abuses of shilly-shallying and holding back for fear of giving offense. In discharging these duties, only when legislation is not rash can it be carried out. Not only will those who go contrary and make trouble be punished according to the statute for the punishment of disobedience to an imperial edict, but those who, in carrying out such edicts, are not energetic will be punished according to the statute concerning corruption in office. Before undertaking these duties at all, the first thing necessary is to manifest resolution like an upright pillar; then may one accomplish the splitting of the bamboo—*i. e.*, the difficult task. The Book of History says, "Hold fast the golden mean;" and again, "Only with decision of character can there be completion of a work." These words sum up the case.

(3) In establishing this board of administration, we follow for the most part the idea of the San Ssŭ (three board) of the Sung dynasty in their institution of the office of regulations, but we make some modifications. The changes proposed by Wang Ang-shih, a minister of that period, consisted in collecting taxes on the unripened grain, the drafting of one soldier from every ten families, the tax on land areas, and the construction of water ways. He took counsel privately with his guests and companions, and arranged a series of regulations for enforcement throughout the Empire, thus abandoning the custom of consulting [with the people] and adopting what is generally approved; so that high and low alike regarded his method as unsuitable.

But we have now reverently received the clear orders of the Throne that the high officials, metropolitan and provincial, should give the Government the benefit of their experience and wisdom, and await the imperial adoption or rejection of their advice—that is, there is a desire to learn public opinion. Admirable words, those of His Majesty, greatly surpassing those of the ancients.

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The memorials of the various officials are all to be turned over to the Board of National Administration for examination and classification, to determine whether or not their recommendations can be carried into effect. At the commencement of this work it is necessary, first of all, to examine them with careful attention; those that can not be put into practice should be temporarily laid aside, but properly arranged, and the difficulties in the way of their practical application should be stated to the board for its consideration. Those suggestions that can be put into practice should be separated, the less urgent from the more urgent, and consideration should then be given to their need of modification; for, although an official may make a suggestion worthy of being taken up, and though his explanation of its purpose may be very good, it does not follow that his plan should be carried out, in its entirety. It must be deliberated upon by the Board of National Administration, which will decide upon its merits and defects. Having selected what is most valuable in the plan, the board will request an edict authorizing its being put into operation; or, should several officials or several tens of officials unite in recommending some plan worthy of adoption, their memorials should be collected together and classified, their repetitions omitted, and their deficiencies supplied. Then an edict may be requested directing the plan to be put into execution.

The two characters "cheng" "wu" (affairs of government) embrace in their meaning ten thousand different matters; and yet so far there are less than a hundred officials who have sent in any suggestions. There are advantages to be promoted and evils to be removed, yet a large number of officials, both metropolitan and provincial, have not spoken upon these matters. The Board of National Administration, therefore, must itself deliberate and decide upon some plan of action, and having determined what is most feasible, will petition for an edict to put it into practice. Afterwards, as edicts shall be received carrying these various suggestions into effect, they must be collected into a volume, thus gradually forming a set of records on the matter of Government administration, for these affairs are not to be managed by a slight exertion, nor are they to be considered as the passing events of a single day. The most urgent thing is to search for men of eminence to assist in executing these wise plans. But if the regulations of the ordinary yamêns are to be followed—that is, whenever any important matter of government demands attention, if the officials of the six boards and the nine ministers are to send in their memorials and from these one is to be selected to be put into general operation by the Board of National Administration and afterwards reported upon again by the officials of the various provinces—the whole thing is reduced to a mere empty form, a beginning without an end, and a serious hindrance to any reforms that have in view the strengthening of the State.

(4) The affairs of government are numerous and troublesome; therefore the suggestions of the various officials having been classified and a selection made from them, they should be referred to various departments, each department of the board having its own particular work to which it is specially devoted—such, for instance, as government organization, education, examinations, administration, relation of the state to wealth, military affairs, foreign affairs, commerce, industries, and punitive law. Although some of these matters require more urgent attention than others, there are none which do not require examination and settlement. Each department, too, should have its own work classified. For instance, under government organization there is included matters civil and military, the abolition or consolidation of offices, increase and reduction. Under education there is embraced the affairs of the Kuo-tzŭ-chien (school of the sons of the Empire), the colleges of the prefectures, departments and districts, all provincial schools and colleges, the publication of newspapers, translation departments, schools of language, surveying and drawing, astronomy and mathematics. Under the

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head of examinations are included those for the degree of provincial licentiate, those for the master and doctor's degrees, and the special examinations. Government administration embraces clearing up of litigation, the collection of taxes, control of the wild tribes, the tithing, and police. Under the head of the relation of the state to wealth there is embraced a very wide field; agriculture, the improvement of water ways, colonization, cattle raising, forestry, customs and tolls, land tax and personal service, mining, railways, "cash" notes, silver notes, salt gabelle, transport, granaries, loans, the various Government establishments for the manufacture of cotton and silk—all these are included. Military affairs embrace matters connected with naval and land forces, methods of drill, strategy, pay, camp regulations, arms, fortifications, the construction of camps, mobilization, the discharge of extra forces, etc. Foreign affairs refer to the appointment of ministers to foreign countries, the collection of duties on foreign goods, missionary matters, travelers, and all matters pertaining to the treaties and to international law. All these things belong to this department. Commerce really forms an important subdivision under the heading of the relation of the state to wealth, but it should be assigned to a department by itself, that it may receive the attention due to its importance. All matters connected with manufacturing belong to the Department of Industries. The department devoted to punitive law should make a comparative study of this and of international law, and a supplement should be prepared which may be of use in the settlement of cases between Christians and non-Christians. Thus in dealing with these affairs, each matter will have its own department to which it can be referred, and the official and secretary concerned, having agreed upon a feasible method of procedure, should refer the matter to the proctors for further consideration, and these, having deliberated and agreed together on a just decision, should report to the board for its examination and approval, and only after this may the imperial sanction be asked.

(5) In modifying the Government, the most important things to be considered are two. In the first place, the old customs were good, but, having been in operation a long time, a great many abuses and obstructions have grown up. The administration of the law should be thoroughly reformed and restored to its early condition. In the second place, what is lacking in the Chinese law should be supplied by an admixture of Western law, so that in time we may gradually become wealthy and strong. The law should abandon [slavish adherence to] precedent, choosing only what is good and following that. In every matter we should, with attentive minds, make careful inquiry. All Chinese books on government matters, together with the various sorts of Western books which have been translated at Shanghai, should be bought and kept in the office of the board. Japan is of the same continent with ourselves; her change of methods is quite recent, and she has attained to strength and prosperity. Her experience has been so nearly like our own that we may derive instruction from it. The Chinese minister to Japan, therefore, should be directed to make a report of all the changes in government methods that have been adopted and that have proved advantageous, and send it to us; and all the Chinese ministers to the various countries should be instructed to report the various financial measures, military laws, commercial and industrial legislation which prevail abroad, selecting the most important measures, classifying them, and submitting them to us for our consideration.

(6) The object of the establishment of this board of administration is to promote the independence of China. China's weakness is due to her poverty. The strength of foreign powers is due to their wealth. Deliverance from poverty, therefore, is the very beginning and foundation of independence. But the commencement of reform ought not by any means to wait upon the attainment of wealth. At present China has but a slender thread of life—merely the loyalty of her people; and

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at a time when bands of brigands are spread abroad, mutually deceiving and inciting one another, if the very first thing done is to search the Empire for money, it will shortly be said that of the thousand benefits promised and the hundred ills from which men are to be delivered, not one of the former has been gained nor one of the latter removed. Such a method is a direct oppression of the people and will alienate men's hearts. Though you may have very excellent plans, they will be difficult to carry out. But let us first remove one or two of the abuses complained of throughout the Empire, and carry into execution one or two of the things most desired, and we will cause the people of the whole Empire to know that the reforms projected by the Court really have in view the promotion of the prosperity of the people and the removal of the ills from which they suffer. Men will then sincerely rejoice to comply [with the imperial will]. In all matters let there be a purpose to search out the facts, and afterwards every edict issued will operate like running water. Heretofore, there have been debts to the foreign powers unpaid; now there is the pressure of the indemnity, amounting to more than 20,000,000 taels per annum. How are we to obtain such a sum? There are but two roads to wealth—one is to increase the revenues [literally, "open the springs"], and the other is to economize in expenditure. An increase of the revenues will be either too gradual to meet the pressing demand, or it will be a case of "seeking money and incurring odium." This, therefore, is not so good as practicing economy in expenditure. Economy in expenditure means nothing else than the discharge of useless troops and the saving of their pay, the discharge of extra officials and the saving of their salaries, the abolition of useless offices and factories and the saving of the money spent on them. Pay for soldiers, official salaries, and other expenditures are all the very flesh and blood of the people of the Empire. This consumption of the flesh and blood of the people in extravagance is the pressing calamity of our time. These useless expenditures continue as heretofore, and if any further demands be made, it will be like crushing the bones to get the marrow in order to fulfill the demands of foreigners. Not only would the hearts of the people be embittered, but the Court itself can not bear to adopt such a method. The proper plan is to cut off entirely all useless expenditure in order to pay the indemnities and loans; and if this should prove insufficient, then afterward further demands may be made from the people. Thus we may in some measure promote the prosperity of the Empire and meet the desires of the people.

(7) The edicts of last year strictly forbade the use of such terms as "conservative" and "liberal" [literally, "old" and "new"], the wrangling over "Chinese" and "foreign," a state of affairs which caused the high ministers of the Government themselves to join with one another or to be separated, according as they held to the "new" or the "old," and which brought calamity upon the Empire. This evil extended even to the literary classes. The result of the liberal policy was the rebellion of K'ang Yu-wei—that of the conservative, the Boxer uprising. The Court was too anxious to eat, and the whole Empire was disturbed in mind. Foreign nations were filled with scorn and China was covered with shame.

Now we ought to abandon our prejudices and yield reverence to the holy decrees, casting away all falsehood and crookedness. But those who highly esteem Western methods never inquire into the real foundations, being overhasty to put these methods into operation, thus going to excess in the effort to realize their good purposes. In urging a reform of methods, they continually point to Japan as an example. Do they not know that the territory of Japan is limited in extent and that the customs of her people are uniform, so that it is easy to execute the imperial will? Moreover, this citing of a foreign nation as a reason for learning foreign ways reminds one of the people of Ts'u learning the language of Ch'i, which was

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originally not very different from their own. Such a change is very easily introduced and quickly accomplished. [*Note.*—The idea is, that the Japanese, being foreigners, do not greatly differ from other foreigners, and that their adoption of Western ways, therefore, would be much easier than for the Chinese. This mistaken notion has been combated by editorials in the native press.] China, however, with its more than 40,000 li of territory, has existed through more than two thousand years, and has never known heretofore what sort of a thing Western learning was. In the south and east, certain provinces have begun the adoption of Western customs, and say there is nothing to fear or suspect in Western methods. But the people of the north and west are simple in their habits; their eyes and ears have had no broad experience, and to abruptly order them to change their manners is no wiser than the sounding of a cymbal for a deaf man to hear or the endeavor to peel a water nut with a lotus stem. In reforming the customs, therefore, it is decidedly difficult to make a plan of universal adaptability which may be put in operation among all the people of the whole Empire. The plan must be adjusted to the character of the locality and developed according to the circumstances and prosperity of the people. Moreover, in adopting Western methods, we must remember that there are differences in Western forms of government and in Western industries. If we desire to obtain the material benefits of their civilization, we must first learn their hearts. The hearts of Western men are interested in the public welfare, while those of the Chinese, for the most part, are devoted to selfish concerns. Western literature is terse; Chinese literature is too elaborate. The things of the West are genuine; those of the Chinese, for the most part, are shams. The speech of Western men is reliable; that of the Chinese largely false. Thus, naturally, the two races are very unlike, and in endeavoring to adopt their civilization we get no more than the outside. Though ten thousand men should join together in the effort and labor through a hundred years, it would be very difficult to complete the transformation.

From the first year of T'ung-chih (1862) down to the present, there has never been a time when we have not talked of foreign affairs. Institutions and factories have grown up like a forest and ships and cannon have outnumbered the clouds; yet in thirty years what effective change has been completed? The reason for our failure is that while among Western people in their undertakings a thousand men are of one mind to secure the prosperity of the state—and securing the prosperity of the state benefits individuals as well—among the Chinese, in their affairs, a hundred men have a hundred minds, each seeking his own advantage, and while some profit and others do not, the State does not obtain the least benefit. It is for this reason that shares are not sold and that corporations are dissolved. In undertakings which the foreigner finds profitable, the Chinese, in their endeavors to imitate, find nothing but losses to make good. The hearts of the Chinese must first be rectified, and then they may imitate the excellent methods of the West; but to straighten the foundations and to cleanse the fountain, this is not a task for one man.

(8) In removing abuses, a beginning must be made by the Board of National Administration. At present, the military archives office and the office of the imperial institutes follow the custom of recommending men for promotion once in every three years, advancing or degrading them without regard to rank and giving sudden promotion to those who can pay the price. Now we have received an imperial edict to the effect that His Imperial Majesty is seeking for earnest and upright men who are acquainted with affairs, and that in employing them he will not follow the custom of waiting three years for recommendations to promotion, so that he may avoid the wrangling and intrigue of those who are hoping for quick advancement.

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The clerks of the board will be treated according to the custom which prevails in the Grand Council, and will be promoted to official positions as a reward for good service.

(9) In important matters of government, careful inquiry must be made into the essentials. The members of the board being divided between Pekin and Si-an, are compelled to carry on their deliberations by messages to and fro. In such matters, therefore, it may be best to wait until after the return of the Court, when we shall be able to carry on our investigations and deliberations more satisfactorily. But plans for the correction of abuses and the promotion of the welfare of the people can be put into operation at once. The Board of National Administration must memorialize the Throne and obtain the necessary edicts, that they may thus fulfill the hopes of the Empire.

(10) The success of government depends upon the character of the men employed. In this respect, there is no difference between the present and ancient times. No matter how carefully and thoroughly the Board of National Administration may plan, other ministers of the State, whether in the capital or in the provinces, must with genuine purpose and energetic effort remove the old abuses before there can be any real reformation.

This board has control of all matters concerned with the general administration throughout the Empire, and ought to gather from far and wide the eminent and worthy and trust to their various abilities. If the men are wanting in these talents, we ought not to be influenced by our private feelings [to secure their appointment to office]; and, having found the right sort of men, we ought not to allow their want of rank to prevent their employment. The Court, in using men, is uniformly just in its treatment of them, and it is right, therefore, that the Board of National Administration, in proposing the foregoing regulations in rough outline for a beginning, should not go beyond the imperial edict [which commands us] "to seek the public weal and forget private interests, and to really search for facts." Thus, the assessment and collection of the revenues that may be needed for the expenses of the board, now that it is established, form a matter which does not at all concern these preliminary regulations, and we must wait until after the return of the Court to take the matter into consideration.

EDUCATIONAL REFORMS IN CHINA.

Minister Conger transmits from Pekin, October 1, 1901, translations of two imperial edicts providing for the establishing of schools throughout the Empire, and ordering the viceroys and governors to select and send students abroad for the purpose of being educated in special branches of industrial science. The edicts follow.

[Translation from the Pekin Gazette of September 29, 1901.]

On the 5th day of the eighth moon, the following imperial edict was received:

The development of men's talents is certainly at the present time of urgent importance. Some time since it was proposed by the provincial authorities of Kiangnan, Hupeh, and Szechuen to select and send students abroad to travel and study—an excellent suggestion.

Let the viceroys and governors of the various provinces all act in accordance with it and exert themselves to select students of mental gifts, upright character, literary talents, and a general knowledge of affairs, who shall go abroad to thoroughly educate themselves, particularly in the specialized branches of industrial

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science. Let them acquire a thorough mastery of some profession, and genuinely exert themselves in the pursuit of knowledge.

When their education shall have been completed and they shall have obtained their diplomas and returned to China, let the viceroys and governors and literary chancellors of the provinces concerned at once divide them into classes, according to the courses of study which they may have pursued, and examine them. If their knowledge shall really correspond with the statements made in their diplomas, the authorities mentioned shall issue a document certifying the same, and send it with the student to the Board of Foreign Affairs, who, after further examination, shall select the most worthy and memorialize us, requesting honors to be conferred on them. As to the expenses attendant upon such travel and study, let each province arrange some satisfactory method of paying the same, and it will be permitted to enter the item under the head of Government expenditure.

Should any person go abroad to study at his own expense, let the viceroy and governor of his province at once report the fact to the Chinese minister in the country to be visited, that he may look after such students as occasion may require. If he shall complete his course of study and obtain a first-class diploma, on his return to China he shall be permitted to enter the examinations on the same terms as the students which have been sent abroad by the Government. Afterwards, they will await an imperial decree bestowing upon them, according to their attainments, the degrees of doctor and master of arts, that they may be prepared for official employment and to encourage the pursuit of learning.

Let this edict be published abroad for general information. Respect this.

[Translation from the Universal Gazette, Shanghai, September 17, 1901.]

On the 4th day of the eighth moon a telegram was received saying that on the 1st day of the same moon (September 13, 1901) the following imperial edict was issued:

Human talent lies at the foundation of all affairs, and in the cultivation of talent the most important thing is the improvement of educational methods. From of old it has been the glory of the academy that it has laid emphasis upon the practice of virtue and the cultivation of the arts. Therefore, in such times both theory and practice were attended to, and men of talent and virtue were numerous. But nowadays scholars are either empty pretenders or of no use or are fickle and wanting in sincerity. At present it is desired to remove these evils; but without reverence for teaching and exhortation to study there is no way of prospering the undertaking.

Aside from the Imperial University at Pekin, which must be put in thorough order, it is commanded the viceroys and governors of the various provinces, each to convert the schools at the provincial capital into a college, and let each prefecture, subprefecture, and independent department establish an intermediate school, and each department and district a lower grade school with numerous primary schools. In the curriculum let the four books and five classics, with the three bonds and five virtues, form in a general way the foundation, and history, Chinese and foreign government, and industrial science to be employed to supplement this course. Let earnest effort be made to inform the mind, to secure upright conduct, to improve both literary talents and character, and produce men acquainted with the times, diligent in the pursuit of real usefulness. This will approximate the laying of a foundation [for] the completion of virtue and the improvement of talent, which will assist in fulfilling the purpose of the Throne to secure men equipped for the duties of government. Let each of the viceroys, governors, and literary chancellors

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earnestly consult together and proceed as directed. As to the teachers needed, the rules to be established for the schools, and the methods to be employed to reward those students who shall complete the course of instruction, and all the details of such regulations, let the board of national administration issue instructions to all the provincial authorities to prepare the same, and when they shall have been submitted, let the said board, together with the board of rites, again examine them and prepare a memorial.

Let this edict be published abroad for general information. Respect this.

AMERICAN VS. BRITISH LOCOMOTIVES IN INDIA.

Consul-General Patterson writes from Calcutta, September 26, 1901:

In answer to inquiries of the various railway companies in India regarding the comparative original cost of American and English locomotives, and the comparative working capacity and expense of running them, I have received the inclosed letter from the agent and chief engineer of the Bengal Central Railway, which may interest our manufacturers of locomotives:

To the AGENT AND CHIEF ENGINEER,
Bengal Central Railway, Calcutta.

SIR: With reference to your indorsement covering copy of a letter dated August 16 from the consulate-general of the United States of America regarding the comparative working capacity and the cost of running, etc., of English and American locomotives, I have the honor to state as follows:

2. Five American engines were received and started to work in July and August, 1899. At the commencement of their career, the engines did not steam freely, and the fuel consumption was also very high—almost 70 pounds per mile. This was, however, remedied by the introduction of the following alterations, viz: (1) One single-exhaust pipe and blast nozzle (in place of double pipe and nozzle), (2) all deflecting plates removed from smoke box; (3) new fire-grate bearing bars to take 22 fire bars in place of 24; (4) new regulator valve of the State railway type in place of single double-face valve; (5) india-rubber feed pipes in place of brass castings ball and socket; (6) lubricators for pistons. Their performances at the present time are equal to the engines sent out by Dubs & Co. and Nasmyth Wilson & Co. The fuel consumption has also been brought down to 40.5 pounds per mile.

3. The cost of American compared with British engines is as follows:

Description.	Cost.	
Americans with steel fire boxes and steel tubes, delivered in 75 days	£2,120	$10,317
Americans with copper fire boxes and brass tubes, delivered in 75 days	2,427	11,811
Neilson & Reid's bogie, delivered in 12 months	3,060	14,801
Dubs & Co.'s bogie, delivered in 17 months	3,000	14,560
Sharp Stewart's bogie, delivered in 21 months	2,985	14,527

4. The fuel consumption is as low as that of the British engines, after being altered here by me. The American engines have run 118,440 miles since August, 1899, and no duplicates have yet been used, except the turning up of the bogie

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wheels of one of them. They are all, however, showing a tendency to have sharp flanges.

5. The engines pull well and run much easier than the British locomotives.

6. Since they were put to the lines, no repairs excepting the ordinary trifling ones were done. One has, however, been sent to the shops lately for somewhat heavy repairs, on account of its sustaining damage in a collision.

7. Since forwarding the above report of the American engines in November, 1900, these engines have been running heavier trains during the first half year of 1901, owing to the stoppage of all "goods trains." With these heavier loads, the American engines do not show so well in consumption of fuel as the English engines by nearly 3½ pounds per mile. The consumption of oil is also heavier—almost 1 pound per 100 miles run.

I have, etc.,

J. N. ROBB,
Assistant Locomotive Superintendent.

QUININE AUCTION IN BATAVIA.

The following, dated Batavia, September 11, 1901, has been received from Consul Rairden:

The fourteenth public auction of quinine was held in this city on the 5th instant, and the following were the prices realized:

Editio II, consisting of 3,855.6 kilograms (8,500 pounds) of sulphate of quinine in one hundred and seventy lots, each of 22.68 kilograms (50 pounds). The bidding was anything but brisk at the beginning, and 18.90 florins ($7.60) and 19.95 florins ($8.02) were the highest offers for the first twenty lots, which were not accepted, as the limit was 20 florins ($8.04). Only sixty-eight lots were sold at 20 florins ($8.04), and the remaining one hundred and two lots were held back in consequence of the low offers.

Editio II and III, consisting of about 750 kilograms (1,653 pounds) of sulphate of quinine, unpacked, weight and packing at purchaser s option, weight not less than 22.68 kilograms (50 pounds) and not more than 25 kilograms (55 pounds). Of this lot, nine were sold at 20 florins ($8.04) per kilogram (2.2 pounds) and the remaining twenty-one lots were held back in consequence of low offers.

This sale has been rather unsatisfactory. I believe the auctions are held too often to realize even fair prices. At this sale, the average price equals the unit price of 0.0775 florin (3.1 cents) for the bark at Amsterdam, against 0.085 florin (3.4 cents) realized at the last sale, held on the 24th of July.

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GERMAN VIEW OF AMERICAN ADMINISTRATION IN THE PHILIPPINES.

The German press has watched our movements in our new possessions with an eye inclined to be critical; but now a voice has been raised as to the beneficial change effected in the condition of the Philippines by American rule. The central bureau for the preparation of German commercial treaties has just issued and distributed a bulletin to the German press and business circles reading thus:

Although the pacification of the Philippine Archipelago has not as yet been fully established, the accounts of its economic development are so favorable that it can not be too strongly urged upon German exporters to give particular attention to this group of islands. From July, 1900, to March, 1901, the exports have increased by 34 per cent and the imports by 52 per cent, as compared with those of the same period of the preceding year. The testimony can not be withheld that the American administration of the affairs of the Philippines has, as far as the economical betterment of the country is concerned, already achieved extraordinary success.

In 1894, which was the last year of peaceful condition while under Spanish rule, the Philippine imports reached $28,500,000 and the exports $33,100,000 Mexican in value.

Under American rule, in spite of the continued insurrection of the natives, the imports increased in 1899 to $40,900,000 and in 1900 to $55,500,000 Mexican, and the exports to $38,500,000 and $53,400,000, respectively. Military supplies are not included in these figures.

The detailed statistics show that Spanish trade with these islands is rapidly diminishing, while commercial relations with the United States are gaining.

For German interests, it is essential to know whether imports from the United States will receive preferential treatment. Spain gave her products on importation into her colonies preferential rates. The United States hitherto has abstained from following this precedent. It is noteworthy that the tariff schedule, proposed by the United States commission in Manila, retains the present feature of equal rates on all importations, whether from the United States or other countries.

SIMON W. HANAUER,
Deputy Consul-General.

FRANKFORT, *October 26, 1901.*

INDUSTRIAL CONDITIONS IN MADAGASCAR.

Official reports from Madagascar show the following condition of affairs there at present:

The wood industry has already been introduced into the province of Manjakandriana, there being a camp with two heavy lumber machines, three saws, and two planing engines. The capital required was about $200,000.

In Andrangoloaka there is an iron mill, but not of a modern

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type. The proprietor of this concern has also a wood-cutting concession. A brickmaking establishment exists in the province of Majunga; there is also an iron foundry, an ice-making plant, a printing office, and two big sawmills. All of these industries were started by French capital.

New undertakings which it would pay to establish are a rice-shelling factory, a modern steam laundry, a brewery, a lemonade factory, and a leather tannery.

A capital of from $4,000 to $5,000 would suffice for the erection of a new ice plant. An immediate market for its product could be had outside of Majunga, in all the neighboring ports of the southwest coast.

Small brickyards require no great capital and would yield good profits. Rice shelling recommends itself on account of the little machinery to be used; for such an establishment, $3,000 capital would suffice. At the present moment there are no laundries in the country, the washing being done with cold water by the primitive native method of pounding on stones.

Tanning materials are easily obtained from the various kinds of native bark. A tanyard in or near Majunga to prepare the local hides before shipment would no doubt be a paying investment.

The European beer which is imported at Majunga arrives often in very poor condition, and costs 35 to 50 cents per half-liter bottle. If a brewery with a capital of about $20,000 to $25,000 were established, to provide a good wholesome beer at reasonable prices, it would be a success from the start.

OLIVER J. D. HUGHES,
Consul-General.

COBURG, *October 23, 1901.*

MAKING PAPER FROM BARK IN MADAGASCAR.

Vice-Consul Hunt transmits from Tamatave, October 3, 1901, translation of an article from the Journal Officiel, as follows:

THE MANUFACTURE OF ANTAIMORO PAPER.

The manufacture of paper by the Antaimoro (one of the oldest tribes among the inhabitants of Madagascar), which is completely unknown to the other tribes of the island, constitutes a regular local industry in the district of Ambohipeno. Only a limited number of persons, descendants of the same family, belonging to the Arabs from the coast of Africa, know the secret of this manufacture, and devote themselves to it whenever a pressing need of money or a desire to purchase some long-wished-for article compels them to shake off their native indolence.

The paper, which is supple and very strong and has an appearance of parchment, which gives it the imprint of quaint originality, is in great favor with the Antaimoro, and there is not a family—not a home—that does not possess a dozen

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or so sheets, carefully stitched together and handed down from generation to generation.

In these parchments there are religiously preserved the family traditions, chronicles of past events, the history of former wars, the unchangeable decrees of their ancestors—in a word, the whole of the national manners and customs; it is in these documents that the followers of Islamism—very sparse in that region—transcribe and study the law of the Prophet; it is, in fact, in these scrolls that the Antaimoro, suspicious and greedy of gain, calculates the profit on his oxen and the product of his rice fields.

This quaint agglomeration of Arabic hieroglyphics, with Malagasy sentences and figures in the same volume—which the owner will only part with for its weight in gold—ought to furnish the bibliophile a document decidedly out of the common.

The manufacturer of this peculiar paper was apparently a man cast on the coast in the middle of the ninth century, who settled on the Matitanana River.

Tradition represents him as horrified at seeing his Koran torn, doubtless due to the stirring adventures of his voyage, and puzzling his brain to make a clean copy. Experimenting with different barks of trees, he finally fixed his choice on the avoavo, the bark of which is easily reducible to pulp.

The avoavo is a wild shrub with short branches of an average thickness of 4 to 5 inches in diameter and 9 to 12 feet in height, the leaf resembling very much a bay leaf. It is met with everywhere, on the coast and in the interior of the district, and the bark can be utilized at any season of the year.

After taking off the outer skin, which is of the grayish tint peculiar to trees in general, the inner part, perfectly white and somewhat sticky, is removed and formed into a big ball, which is placed in running water to soak. This ball is picked to pieces little by little, and the pieces thus separated are washed and placed in a large pot with a certain quantity of water; the mass is then covered with ashes, followed by a second layer of bark, again covered with ashes, and so on until the pot is three-quarters full. The pot is then filled with water, the lid put on, and the whole boiled for two or three days without interruption, care being taken to add very clean water from time to time to replace the loss by evaporation, always throwing in a handful of ashes.

On the morning of the third day, the bark, completely reduced by cooking, looks like a thick batter, which is then passed through a sieve and washed in fresh water. It is then beaten, briskly kneaded, and under the pressure of the fingers is transformed into a soft dough, which is spread, still damp, on the green leaves of the traveler's tree with a special tool, consisting of two rods about 18 inches long, joined by slats of raffia wood, the only wood, apparently, to which the pulp will not stick. This is the most delicate part of the whole operation.

With the flat of the hand, moistened, the required thickness is given to the sheet; it is then pressed, leveled, smoothed, and put in the sun.

As soon as it is dry, it is glazed with weak rice water, spread with the hand, like starch, on linen. The sheet, still in a damp state, is then, as it were, ironed out by the hand or with a polished pebble. It is finally dried, peeled off from the green leaf, and the paper is finished. Each sheet thus obtained is worth from 1 to 2 cents; it measures 20 to 23 inches long and 10 inches wide. It is finally trimmed for binding.

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TRADE OPENINGS IN LOURENÇO MARQUEZ.

This office has received many inquiries from manufacturers in the United States who wish to do business with the merchants of this port. It seems to me that a brief general reply might be made, through the medium of the CONSULAR REPORTS, to all parties interested.

I wish to, point out, first, that there will be little business done here until the war has ended. At present, the entire transportation system of South Africa is taxed to its utmost capacity to keep the troops in garrison and in the field supplied with rations, munitions of war, etc., and consignments of goods intended for mercantile houses often lie for months in the holds of vessels at various South African ports before they can be landed. Even after they are landed, if consigned to inland ports, they may have to remain on the docks for weeks before they are finally dispatched by rail to their destinations. Again, railway traffic is not perfectly safe, as the Boers every now and then capture or destroy a train on the line of the Delagoa Bay Railroad.

However, a few people are making preparations for a large business when the time comes, and I would suggest that those interested in this subject correspond with the parties named below.

Isaac J. Lithauer, an American citizen, whose present address is care of J. C. A. Henderson, No. 4 Sun Court, Cornhill, London, England, is making preparations to open a large importing house here, and will handle American vehicles, machinery, tools, furniture, railway and mining supplies, etc.

J. C. A. Henderson, an English capitalist, of the same address, is managing owner of the Lourenço Marquez Water Company, which supplies this town with water. He contemplates making great improvements, and will want steam pumps, boring machines for artesian wells, tools, meters, and steel water pipes. Mr. Henderson has obtained the tramway concession mentioned in my report of October 14, 1898,* and intends to build and operate an up-to-date line of electric trolley cars.

Mr. R. S. L. Attwell, an Englishman, whose address is Caixa 206, Lourenço Marquez, has secured a large tract of ground from the Portuguese Government, and is going into farming on an extended scale. He would like to hear from American manufacturers of agricultural implements and tools, pumps, windmills, tide-water wheels, and gearing.

*See ADVANCE SHEETS No. 293; CONSULAR REPORTS No. 221.

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William Blackwood, the leading builder of this district, is thinking of handling building materials and builders' fine supplies, and wants to hear from manufacturers of these lines of goods.

Messrs. Bendahan, Abejdid & Co., an American firm doing a large business here, wish to hear from dealers in boots and shoes, ready-made duck and khaki clothing, hats, furniture, and household supplies.

W. STANLEY HOLLIS,

LOURENÇO MARQUEZ, *September 11, 1901.* *Consul.*

COMMERCIAL POSSIBILITIES OF RHODESIA.

Situated in the heart of the Dark Continent, bounded on every side by the colonies of Great Britain, France, Germany, Portugal, and Belgium, lies a country as yet but little known, controlled by a great stock company famed for its commercial and political enterprises in South Africa. The Chartered Company, with a capital of $22,000,000, is to Rhodesia what the East India Company was once to India.

Rhodesia is divided into two parts—Mashona and Matabeleland south of the Zambesi and Northeast and Northwest Rhodesia north of that river. The whole country is extraordinarily rich in mineral treasures. Apart from the gold mines, which in spite of the war and scarcity of labor yielded during 1900 nearly 166,000 ounces, there are silver, copper, tin, antimony, arsenic, lead, and coal.

Railroad building in Rhodesia, according to German reports, is making rapid progress. The stretch from Buluwayo northward to Salisbury will soon be completed, thus connecting Cape Town by rail with Beira, the seaport town of Portuguese Gasaland. The great Cape-Cairo Railway, planned by Mr. Cecil Rhodes—an enterprise of immense importance to all Africa—will intersect Rhodesia from north to south. There are already some 3,000 miles of roadway, with intervening cart roads, built in South Rhodesia.

In regard to agriculture, much remains to be done. The rich soil is eminently adapted to growing corn, oats, potatoes, tobacco, and even coffee. The vast territory adjacent to the head waters of the Zambesi and its tributaries forms the Mississippi Valley of Africa. It has a great future, and the next ten years will witness a large emigation, not only to Rhodesia, but to England's other South African colonies as well. It will be the policy of the Chartered Company and of the British Government to encourage English settlers to locate in these colonies. The discovery of gold in South

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Africa induced many Americans to locate on the Rand. The opening up of vast tracts of land favorable to farming may produce similar results.

After the war is over, there will be a great demand for corn planters, harrows, cultivators, reapers, mowers, hayrakes, seeders, plows, disks, thrashers, cornshellers, wagons, carriages, carts, harness, saddles, windmills, and every other piece of machinery or utensil necessary to run a farm. American farm machinery is admittedly the best in the world, and a farmer having once used the same will buy no other, if he can get it. South Africa as a farming country has a future, and the British Government, from a political point of view, will make doubly welcome settlers of the English-speaking race.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *October 18, 1901.*

OPENING OF COAST TRADE IN MOROCCO.

Consul-General Gummeré sends from Tangier, October 5, 1901, copy of a letter from the Minister of Foreign Affairs, of Morocco, stating that the Sultan has decided to open the coast trade in that country for certain articles—that is, to permit grain, fowls, vegetables, etc., to be freely transported from port to port. Mr. Gummeré adds:

This will be a great boon to the poor people, as heretofore there has been a tariff which prevented such trade. During periods of scarcity here, when barley and wheat were selling at exorbitant prices, further down the coast at Casa Blanca or Saffi, where the land is remarkably fertile, grain was so cheap as not to pay for the reaping, and was allowed to rot in the fields; and yet not a bushel of it was permitted to be transported to this or any other port by sea, which was the only practicable route. This new order will change all this, and is the direct result of the influence of the English Government.

The letter reads, in substance, as follows:

The Sultan has decided to open the coast trade for the following articles:

Grain, vegetables, fruits, chickens and eggs, which may be carried from port to port in the Holy Empire without paying custom-house dues, but following the usual custom in transporting goods from one port to another—that is to say, there will be a special book for this purpose; the administrator will give a receipt to the owner of the goods, signed by the administrators, stating the class of goods, the number, the weight, the name of the owner, the name of the steamer carrying the goods,

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and the destination; taking from the shipper, as guaranty, the dues on the goods, until the administrators in the port of arrival notify the administrators in the port of departure of the arrival of the goods. If shipment of grain is made from a port, and it is surely known that the grain is not to be exported to Europe, as a measure to maintain this order in force, the guaranty demanded will be of small amount.

COTTON IN EGYPT.

In answer to inquiries by a New York association,* Vice-Consul-General Hunter sends from Cairo, October 1, 1901, statistics showing the annual production of Egyptian cotton in the last fifteen years, the average price per year, and the countries to which the staple was exported, as follows:

Annual production of Egyptian cotton from 1885 to 1900.

Year.	Quantity.	Year.	Quantity.
	*Cantars.**		*Cantars.**
1885–86	2,923,450	1893–94	4,933,666
1886–87	2,931,691	1894–95	4,615,270
1887–88	2,937,000	1895–96	5,275,383
1888–89	2,723,000	1896–97	5,879,750
1889–90	3,183,000	1897–98	6,543,128
1890–91	4,072,500	1898–99	5,588,816
1891–92	4,672,520	1899–1900	6,509,645
1892–93	5,118,150		

*1 cantar=99.049 pounds.

Statement showing to what countries Egyptian cotton was exported during the years 1885 to 1889.

Country.	1885–86.	1886–87.	1887–88.	1888–89.	1889–90.
Great Britain and America.....bales...	231,027	265,624	250,461	228,470	270,288
Russia.....do.....	83,203	54,330	57,896	50,814	39,945
Austria.....do.....	32,175	32,449	38,400	30,182	48,572
France.....do.....	25,927	36,133	30,688	26,622	33,315
Italy.....do.....	24,727	23,993	29,211	29,280	30,864
Spain.....do.....	10,151	5,843	4,856	5,126	3,557
Greece.....do.....	.....	.....	938	1,071	627
Total in bales.....	407,210	418,372	412,450	380,565	427,168
Total in cantars.....	2,903,858	2,864,073	2,945,459	2,735,819	3,168,677
Turkey, etc.....bales...	.....	13,799	18,926	44,135	33,881
Grand total in cantars.....	2,903,858	2,983,123	2,964,385	2,779,954	3,202,588
Less tare.....cantars...	115,166	119,050	.....	.....	.....
Net cantars.....	2,788,692	2,864,073	2,964,385	2,779,954	3,202,588
Average price.....per cantar...	$12.75	$12.75	$12.50	$13.06¼	$13.50

* To the manager of which ADVANCE SHEETS have been sent.

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Statement showing to what countries Egyptian cotton was exported during the years 1890 to 1894.

Country.	1890-91.	1891-92.	1892-93.	1893-94.	1894-95.
Great Britain.....bales...	282,478	339,305	320,848	310,956	276,294
Russia.....do.....	108,304	111,254	147,484	151,018	132,309
Austria.....do.....	44,135	36,626	46,741	41,928	54,457
France.....do.....	32,325	38,899	34,713	40,425	46,242
United States.....do.....	18,790	25,673	38,765	29,261	44,554
Italy.....do.....	36,212	38,637	50,098	52,764	43,803
Spain.....do.....	11,870	10,754	17,918	19,915	19,007
Germany.....do.....	2,809	9,606	17,578	10,515	7,477
India.....do.....	.....	913	3,313	3,606	7,077
Belgium.....do.....	.....	1,134	505	2,358	2,512
Japan.....do.....	.....	.....	.....	1,417	113
Sweden.....do.....	.....	.....	.....	.....	112
Total in bales.....	538,003	614,072	677,963	664,163	633,957
Total in cantars.....	4,031,685	4,640,311	5,100,700	5,057,800	4,820,820
Turkey.....cantars...	22,720	22,030	.....	.....	.....
Roumania, Greece, etc.....do.....	1,080	1,271	16,024	15,604	14,663
Bombay, etc.....do.....	.....	.....	.....	.....	3,963
Grand total in cantars.....	4,055,485	4,663,612	5,116,724	5,073,404	4,839,446
Average price.....per cantar...	$11.75	$9.25	$9.25	$9.12½	$10.06¼

Statement showing to what countries Egyptian cotton was exported during the years 1895 to 1900.

Country.	1895-96.	1896-97.	1897-98.	1898-99.	1899-1900.
Great Britain.....bales...	340,549	341,865	349,806	347,335	407,245
Russia.....do.....	85,694	126,318	185,947	106,561	73,740
Austria.....do.....	65,157	67,015	60,892	56,958	77,481
France.....do.....	58,164	64,775	69,853	68,011	83,990
United States.....do.....	59,339	51,056	54,979	52,335	72,196
Italy.....do.....	41,092	51,684	55,628	49,887	65,381
Spain.....do.....	18,125	21,714	24,050	23,899	22,245
Germany.....do.....	7,339	15,713	22,091	17,642	19,905
India.....do.....	4,411	2,612	3,180	1,871	9,362
Belgium.....do.....	2,493	4,060	4,831	4,920	12,617
Japan.....do.....	948	1,374	2,612	2,130	8,277
Sweden.....do.....	110	39	65	.....	.....
Canada.....do.....	.....	.....	.....	.....	1,100
Total in bales.....	684,321	748,225	833,934	731,549	835,530
Total in cantars.....	5,204,232	5,733,879	6,367,312	5,581,859	6,505,946
Turkey, Roumania, Greece, etc., cantars.....	15,300	22,600	31,816	22,457	6,099
Grand total in cantars.....	5,219,532	5,756,479	6,399,128	5,604,316	6,512,045
Average price.....per cantar...	$11.37½	$10.25	$8.06¼	$8.62½	$12.62½

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IMPORTATION OF FARMING IMPLEMENTS INTO TURKEY.

Under date of October 9, 1901, Mr. Eddy, secretary of legation at Constantinople, sends translation of a circular note from the Porte relative to the importation of farming implements into the Ottoman Empire, as follows:

By virtue of a decision of the Imperial Government, the limit fixed for the importation, free of customs duty, of the farming implements mentioned in the appended list has been prolonged by ten years, beginning from August 4 ultimo (old style). Iron scythes with wooden handles, which figure in this list, returning into the category of tools of old system, will be subjected to the entrance duty.

LIST OF AGRICULTURAL IMPLEMENTS FREE FROM DUTY.

Plows, iron, with wooden handles, worked by hand, horsepower, or steam; winnowing forks, of wood or iron, worked by hand, steam, or water power; reapers, binders, hayrakes, harrows, cultivators, rollers, sowers; machines for digging potatoes and beets, for cleaning rice, for crushing seeds and extracting oil, for pulverizing dirt and manures; sieves for cleaning and separating grain; thrashing machines, worked by hand, animal, steam, or water power; sawmills, lawn mowers; machines for turning and airing grass, called "catona;" iron cultivators, called "muzg;" pulverizers for manure, called "mihdjem;" machines for cutting beets and for crushing grains, corn, and seeds for animal food; sprayers and garden syringes, sickles, scythes, hoes worked by hand or animal power; sprinklers; machines for distributing fertilizers, for making bales of hay; rakes with grappling hooks, and machines for making and tying bundles of hay.

THE TRANS-CAUCASIAN PETROLEUM PIPE LINE.

Vice-Consul-General Murphy sends from Frankfort, October 24, 1901, the following translation from the Frankfurter Zeitung:

The principal sources of supply for the world's petroleum market (in which, as is well known, Germany is one of the principal buyers) are the United States and Russia. In all probability, there will be no change in this respect in the near future, as the other petroleum-producing countries do not supply enough for their own use. The beginning of the work of laying pipes from the petroleum district of Baku to the port of Batum promises, however, a change in the relative competitive strength of the United States and Russia.

In the year 1900, Russia supplied 35 per cent of all the petroleum offered for sale in the markets of the world—namely, 73,000,000 poods* (365,000,000 gallons) out of a total of 207,000,000 poods (1,035,000,000 gallons). In 1900, Russia produced 672,000,000 poods (3,360,000,000 gallons) of naphtha, while the production of the United States was only 421,000,000 poods (2,105,000,000 gallons). The weak participation of Russia in supplying the world's markets was due to the fact that Russian freight rates to the seaport are too high and the means of transportation are insufficient. The reason usually given in Russia—namely, that the producers, for business reasons, give more attention to the manufacture of naphtha products

* 1 pood = 5 gallons.

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than to the refining of oil—is correct only because of the obstacles to transportation just mentioned. The transportation of Russian petroleum is now effected by means of the Baku-Batum Railway and the railway from Petrovsk (on the Caspian Sea) to Novorossisk (on the Black Sea). The latter is of minor importance, and carries petroleum only when the Baku-Batum line is overburdened with traffic or when the prices of petroleum are so high that this more expensive route can be profitably used. The Baku-Batum line is 842 versts (558.2 miles) long, and has a double track for only two short stretches of 151 and 94 versts (100.1 and 62.3 miles). With its present supply of tank cars—about 1,600 large ones, each holding about 750 poods (3,750 gallons), and about 3,400 small ones, with a capacity of 610 poods (3,050 gallons)—the railway is capable of transporting to Batum, allowing thirteen days for the round trip, about 80,000,000 poods (400,000,000 gallons) per annum, though as yet the amount has seldom exceeded 60,000,000 poods (300,000,000 gallons), owing to the frequency of railway accidents. Since October, 1900, a pipe system 215 versts (142.5 miles) in length has been in operation between Michailovo and Batum, but, owing to careless management, only about 3,800,000 poods (19,000,000 gallons) per month has so far been forwarded in this way. By the end of 1902, another 134 versts (88.8 miles) of pipe line will have been laid. An imperial order was issued in July of this year for the completion of the remainder of the line—469 versts (310.9 miles). From Baku to Voltschi-Vorota—11 versts (7.2 miles)—a pipe line has long been in use. The completed system will have a capacity of 125,000,000 poods (625,000,000 gallons) per annum. The transmission of each pood (5 gallons) of petroleum through the pipe will cost the State 1.2 kopecks (0.6 cent), the net cost of forwarding a pood by rail being 3.9 kopecks (2 cents).

As the Russian Government has undertaken the completion of a pipe line not merely as a financial venture, but for the declared purpose of helping the Russian petroleum industry to compete in the markets of the world, it will probably be satisfied with moderate profits, in order to accomplish its object. By ministerial decree of February 15, 1900, the railway freight rate per pood was raised from 10 to 16 kopecks (5 to 8 cents), the price having once been as high as 19 kopecks (9 cents). After the pipe line is completed at the end of 1903, rates will probably be much lower than ever before.

Thus, the Russian petroleum industry will be enabled to compete with the American industry in the markets of the world, if other conditions remain favorable, especially if no change be made in existing commercial treaties and in the rates of duty fixed thereby. Moreover, Germany can, by assuming a friendly or a hostile attitude toward Russian petroleum and naphtha products, enforce its wishes in negotiating a new commercial treaty with Russia. The Trans-Caucasian petroleum pipe line will force Russia into the world's markets as a seller.

NEW RUSSIAN RAILROADS.

According to German newspapers, the standing Russian railroad-building commission has just approved the plans for the Moscow-Kasan-Kyschtymsk Railroad.

The present outlet of the great Trans-Siberian Railroad—the Ssamara-Slatonster Railroad—is so overburdened with freight that it can no longer handle the amount of goods delivered. It has become necessary to find other means to relieve trans-Siberian traffic, and the so-called North Railroad, which connects Viatka, via Vologda, with St. Petersburg, and the Moscow-Kasan-Kyschtymsk

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line, which has been projected by the Moscow-Kasan Railroad, will be made to serve the purpose.

The former line is already laid out and contracts are being made with foreign firms for its construction. The building, equipping, and running of the latter road has been turned over to the Moscow-Kasan Railroad Company by the commission, under condition that it be completed at once and that the necessary rails and cars be ordered from Russian factories.

Another new line is to unite the cities of Poltava and Yekaterinoslav. This road will be 106 kilometers (66 miles) long. The concession is for eighty-one years, but after twenty years the Government is to have the right to buy the road for a stipulated price. The necessity for this line is fully appreciated by the commission.

OLIVER J. D. HUGHES,
Consul-General.

COBURG, *October 2, 1901.*

AMERICAN PRODUCTS IN AUSTRIA-HUNGARY.

Imports into Austria-Hungary from the United States are increasing rapidly. American exporters have not, until recently, given general attention to this part of Europe, which is considerably removed from ports in closest touch with trans-Atlantic commerce. Although the total amount exported from the United States during the year 1900 to this Monarchy amounted to some $30,500,000, the sum is, nevertheless, capable of being enlarged. This probability is understood in Austria, and the prospect is not complacently regarded. Austrian manufacturers and agriculturists are making an organized effort to stem the inflow of American products, and within the week an important conference has gathered in Vienna to take measures against our competition. The movement can not be called determinative; it shows, however, the attitude of an influential and educated minority. It is the producer, rather than the consumer, who endeavors to place himself on the defensive. Mention is often made here of a protective league, comprising Austria-Hungary, Germany, Switzerland, Holland, and Belgium, against the United States, although it can not be seriously considered. At the assembly in question, composed of leading men discussing how American imports can be effectually restricted, it was openly acknowledged that the commercial policy of the present time is dictated and controlled by the United States. Austria is threatened with formidable shipments of goods that tend to dwarf, if not actually destroy, many Austro-Hungarian industries. Especially does the Austro-Hungarian agriculturist cry out against the imports from the United States of flour, corn, lard, beef, bacon, ham, and fresh fruits—articles that

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the Argentine Republic, Russia, and the Balkan States also ship to Austria-Hungary. Although, as yet, there has been no extensive unloading of American coal at either Trieste or Fiume, it is feared that the United States will soon begin to carry anthracite to the Austrian and to the Hungarian seaports. Iron, steel, and machinery have already established themselves on a commercially profitable basis. Instances of the gigantic strides of our American manufacturing industries are cited to show our ability to forge ahead of all competitors in many fields. American trusts are particularly mentioned as a mortal peril to European manufacturers, on account of the powerful organization of capital and business manipulation.

As a means to ward off encroaching American competition in Austria-Hungary, it is recommended, in view of the commercial policy of the United States and the present customs movement of the German Empire, that there be an entire reconstruction of the Austro-Hungarian tariff system, so that sufficient and lasting protection may be granted to manufactures and agriculture. At the same time, it is said, this new tariff must be specialized in the most far-reaching manner. It should contain sufficient concessions to facilitate the conclusion of favorable commercial treaties and to develop Austro-Hungarian exports. The usual most-favored-nation clause in the new commercial treaties should no longer be inserted, and, on the other hand, certain paragraphs should be added which will give reciprocal advantages. In view of the rapid changes that are likely to occur in the field of commerce, the manufacturers and agriculturists consider it advisable to determine the duration of the treaties according to the productive conditions of the various states with which they may be concluded. They demand that treaties protecting domestic industries in a satisfactory manner and stimulating export should be subject to termination at long notice, but that a commercial treaty with the United States of America should be subject to short notice.

CARL BAILEY HURST,
Consul-General.

VIENNA, *October 28, 1901.*

LEATHER TRADE OF HUNGARY.

The report of the Budapest Chamber of Commerce describes the situation of the leather market in Hungary in 1900 as unchanged from 1899, which year was not favorable.

One of the principal reasons for this was that the Austrian and other foreign leathers competed strongly. In spite of the duty, foreign leather was imported and sold cheaper than the home product, while Austrian leather, which paid no duty, naturally had a

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disastrous effect on the market. On account of the higher price of the Hungarian leathers, the merchants here were not able to export, except some sole leather.

The different skins were quoted as follows in 1900:

White lambskins.—Prices fell 10 to 12 per cent.

Black lambskins.—No trade.

Goatskins.—Supply 10 per cent less than in 1899; prices higher.

Sheepskins.—Export to Germany; prices lower.

Cowhides.—Prices 5 to 10 per cent higher; good business with Germany.

Calfskins.—Prices 6 to 8 per cent higher; export to Germany.

Fancy leathers (sheep and goat).—Increased from 10 to 20 per cent in price because the Balkan States, which were the principal producers, sent their raw product almost exclusively to America.

The Hungarian import and export of leather for the year 1899 was as follows:

Country.	Import.	Export.
Sole leather.		
Austria	$1,787,065	$666,449
Trieste	62,064	.....
Germany	8,470	.....
Roumania	6,439	26,695
Bosnia and Herzegovina	.....	93,429
United States	99	.....
Sole-leather cuttings.		
Austria	75,199	80,343
Great Britain	3,638	.....
Bosnia and Herzegovina	.....	2,302
Glove leather.		
Austria	118,592	37,782
Germany	20,544	.....
Ordinary upper leather (horse and cow hide).		
Austria	933,014	428,655
Germany	23,662	.....
United States	1,622	.....
Bosnia and Herzegovina	.....	30,625
Servia	.....	5,940
Bulgaria	.....	6,403
Fine upper leather (calf, chamois, goat, sheep).		
Austria	2,261,241	524,714
Germany	94,419	.....
France	6,723	.....
Great Britain	5,262	.....
United States	2,192	.....
Bosnia and Herzegovina	.....	21,486
Servia	.....	5,291
Leather for linings.		
Austria	106,721	319,091
Great Britain	19,634	.....
European Turkey	39,691	.....
Germany	.....	4,166
Patent and other fine leather.		
Austria	98,658	6,090
Germany	103,530	.....
United States	914	.....
Russia leather.		
Austria	22,268	24,279

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According to an estimate of one of the leading shoe manufacturers in this city (Budapest), about 20 per cent of the finer leather used in Budapest is of American manufacture. It is not imported directly, but is for the most part bought from German middlemen or jobbers. This of course adds to the price, and the aforesaid merchant states that he is willing to furnish capital toward handling American leather only, as representative of an American firm. He would be glad to receive offers from Americans stating conditions, and will furnish references as to his standing, etc.

The duties on the various kinds of leather are:

Description.	Duty.	
	*Florins.**	
Sole leather and waste of same.....per 100 kilograms (220.46 pounds)...	15	$7.31
Patent leather (Russia), crocodile, seal and hog, etc., glove leather, per 100 kilograms	9	4.38
Leather belting for machinery.....per 100 kilograms...	22	10.72

*Gold.

It seems that, as American leather is already known here and recognized to be the best, steps should be taken to introduce our goods directly, and not through jobbers. This can be done either by sending a salesman who can speak German and is willing to stay here and secure a good, trustworthy agent, or by correspondence with reliable native merchants.

The following is a list of dealers in leather (not manufacturers) in this city:

Bleyer Bros., II fö-utcz a.
Joseph Eisler & Son, VII Király utcz a 1.
Fehér & Serérnyi, VIII Kerepesi út. 49.
Herman Fischer, VI Szerecsen u. 4.
Leopold Leitersdorfer, VII Kiraly utcz a, 15.
Ney Brothers, VII Dob u. 82.
Joseph Raditz Sons, VI Szerecsen u. 7–9.

FRANK DYER CHESTER,
BUDAPEST, *October 11, 1901.* *Consul.*

VIENNA EXHIBIT OF INVENTIONS AND NOVELTIES.

A committee composed of leading manufacturers, members of the Vienna Chamber of Commerce, and representatives of prominent corporations has just held a meeting in this city, at which the idea of an international exposition of inventions and novelties, to take place in Vienna in 1903, was discussed. The general scheme of the

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exhibition was unanimously indorsed, and the preliminary steps taken thus far toward its realization by the committee were approved. The legal adviser of the chamber of commerce roughly sketched the programme of the exhibition, which is to embrace all varieties of technical inventions and, in particular, those already practically introduced in the manufactures. There will, perhaps, be an inventors' gallery, where workshops will be open for public demonstration. In order to offer an attraction to women, also, an exhibit of the latest fashions is planned, and the formation of a ladies' committee to further this department has been undertaken. The financial support of the undertaking seems to be assured. Great hopes are placed in the success of the exhibition, which Austrian gas and water men are especially active in promoting. From this inceptive stage, this would seem to be an excellent opportunity for Americans to show their achievements in practical invention, a field that may be called almost preeminently their own.

CARL BAILEY HURST,
Consul-General.

VIENNA, *October 18, 1901.*

AUSTRIAN-GERMAN TARIFF DIFFICULTIES.

The statement that the Hungarian premier has declared that the adoption of the new German tariff schedule would necessarily bring about a tariff war between Austria-Hungary and Germany is confirmed by an article which appeared in the Magyar Nemzet, of Budapest, the official organ of the Hungarian Ministry. The article says that the premier has, with the approval of the Austrian Government, declared that Austria-Hungary could not conclude a commercial treaty with Germany on the basis of the latter's new tariff schedule. The minister at the same time pointed out that by adhering to this tariff Germany would raise the whole world in opposition to her.

The Neue Freie Presse, of Vienna, says that immediately upon the announcement of the new German tariff schedule, the Minister of Foreign Affairs of the dual Monarchy sent a note to the German embassy at Vienna, protesting against the adoption of said schedule as a law.

Russia, Austria-Hungary, and the Balkan grain-producing states would be much more seriously affected by the enhancement of the German grain duties than the United States.

SIMON W. HANAUER,
Deputy Consul-General.

FRANKFORT, *October 12, 1901.*

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COMMERCE AND INDUSTRIES OF GERMANY IN 1900.

IMPORTS AND EXPORTS.

Although the year 1900 will be remembered as the one during which Germany passed the culminating point of a period of phenomenal development and entered upon a period of reaction and depression the duration of which can not yet be foretold, no trace of decline was apparent in the foreign commerce of the year, which in respect to bulk and values of both exports and imports was the largest in the history of the Empire. The total values of German foreign trade during the eight years which ended with 1900 were as follows:

Year.	Imports.	Exports.	Total.
1893	$983,908,660	$772,205,756	$1,756,114,466
1894	1,019,956,854	726,252,246	1,746,209,194
1895	1,010,574,418	814,977,450	1,825,551,868
1896	1,088,480,624	874,287,702	1,962,768,326
1897	1,150,228,058	906,335,178	2,056,563,236
1898	1,303,680,224	952,415,548	2,256,095,772
1899	1,376,503,464	1,039,681,342	2,416,184,806
1900	1,438,234,000	1,131,214,000	2,569,448,000
Increase in 1900 over 1899	61,730,536	91,532,658	153,263,194

In respect to weight, the imports of 1900 amounted to 45,926,158 metric tons, an increase of 1,273,870 tons over those of 1899; while the exports reached a total of 32,682,409 tons, or 2,279,182 tons more than those of the year 1899.

As regards origin of imports, the United States again heads the list with a total, according to official German statistics, of 1,020,800,000 marks ($242,950,400), or 16.9 per cent of the entire bulk of imports into Germany; while the exports of Germany to the United States amounted in value to 439,700,000 marks ($104,648,600), or 9.3 per cent of the total German export of 1900, leaving a balance of 581,100,000 marks ($138,301,800) in favor of the United States. It should be understood, however, that while the above export statistics are correct, the total values of imports cover the values of all American products landed on German soil, a large percentage of which simply pass through this country en route to Russia, Austria-Hungary, Switzerland, and Scandinavia. The amount of American merchandise landed at the free port of Hamburg destined for Russia is steadily increasing, and there is no means of ascertaining just how much of the $242,950,400 worth of American merchandise that was

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landed in Germany during last year was really consumed in this country.

CLASSES OF MERCHANDISE IMPORTED AND EXPORTED.

The following list of the thirty-one leading and most important articles of import and export, grouped in the order of their respective values, shows the relative importance of raw materials and manufactured products in each category, as follows:

Imports by articles in 1900.

Article.	Value.		Percentage of total imports.
	Marks.		
Cotton, raw	318,000,000	$75,684,000	5.3
Wool, raw	261,600,000	62,260,800	4.3
Wheat	171,100,000	40,721,800	2.8
Coffee, raw	155,800,000	37,080,400	2.6
Gold, coined	137,800,000	32,796,400	2.3
Coal	134,900,000	32,106,200	2.2
Corn (maize)	128,900,000	30,678,200	2.1
Copper, raw	127,600,000	30,368,800	2.1
Lumber, sawed	112,500,000	26,775,000	1.9
Woolen yarn	110,600,000	26,322,800	1.8
Silk, raw (undyed)	108,200,000	25,751,600	1.7
Gold (ingots and bars)	103,500,000	24,633,000	1.7
Eggs	103,200,000	24,561,600	1.7
Tobacco leaf	97,800,000	23,276,400	1.6
Hides	97,400,000	23,181,200	1.6
Machinery	96,800,000	23,038,400	1.6
Rye	96,000,000	22,848,000	1.6
Barley	92,500,000	22,015,000	1.6
Lard	88,800,000	21,134,400	1.5
Petroleum	77,600,000	18,468,800	1.4
Chile saltpeter	77,500,000	18,445,000	1.3
Logs and timber	76,200,000	18,135,600	1.3
Iron ore	75,200,000	17,897,600	1.2
Gutta-percha	73,800,000	17,564,400	1.2
Bran, malt, and brewer sprouts	73,200,000	17,421,600	1.2
Flaxseed	71,100,000	16,921,800	1.2
Brown coal (lignite)	61,700,000	16,112,600	1.1
Cotton yarn	62,900,000	14,970,200	1
Oil cake	60,900,000	14,494,200	1
Pig iron	58,400,000	13,899,200	1
Furs and feathers, raw	55,600,000	13,232,800	.9
All other articles	2,669,900,000	635,436,200	44.1
Total	6,043,000,000	1,438,234,000	100

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Exports by articles in 1900.

Article.	Value.		Percentage of total exports.
	Marks.		
Cotton goods	244,700,000	$58,238,600	5.2
Woolen goods	235,800,000	56,120,400	5
Machinery	228,800,000	54,444,400	4.8
Coal	216,900,000	51,622,200	4.8
Sugar	216,300,000	51,479,400	4.6
Silk goods	139,500,000	33,201,000	2.9
Iron manufactures, coarse	139,100,000	33,105,800	2.9
Clothing (all kinds)	99,600,000	23,704,800	2.1
Gold coin	98,300,000	23,395,400	2.1
Books, cards, and music	78,700,000	18,730,600	1.7
Aniline and other colors	77,300,000	18,397,400	1.6
Gold and silver ware	73,500,000	17,493,000	1.5
Fine hardware	71,100,000	16,921,800	1.5
Engravings and etchings	70,200,000	16,707,600	1.5
Woolen yarn	56,800,000	13,518,400	1.2
Coke	55,800,000	13,280,400	1.2
Leather	53,500,000	12,733,000	1.1
Toys	53,400,000	12,709,200	1.1
Furs and feathers	41,300,000	9,829,400	.9
Leather, manufactures of	38,900,000	9,258,200	.8
Wheat	38,500,000	9,163,000	.8
Porcelain	38,100,000	9,067,800	.8
Cotton, raw	34,900,000	8,306,200	.7
Copper and brass goods	33,200,000	7,901,600	.7
Structural iron	30,800,000	7,330,400	.6
Sheet and plate iron	30,300,000	7,211,400	.6
Iron wire	29,900,000	7,116,200	.6
Cotton yarn	29,100,000	6,925,800	.6
Pianos, etc	28,800,000	6,854,400	.6
Cattle hides	28,300,000	6,735,400	.6
All other articles	2,131,200,000	507,225,600	45
Total	4,752,600,000	1,131,214,000	100

A glance at these leading items of import and export reveals several surprising facts: For instance, that, notwithstanding the fuel famine of last year, the German exports of mineral coal exceeded in value the imports by 82,000,000 marks and were almost exactly equal in market value to the exports of sugar; secondly, that the shipments of books, cards, and music were more valuable than those of aniline and all other colors and dyestuffs; and, finally, that the import of eggs exceeded in value raw tobacco, rye, barley, or petroleum.

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GEOGRAPHICAL DISTRIBUTION OF GERMANY'S FOREIGN TRADE.

The imports and exports of Germany during the year 1900 were distributed as follows:

Imports by countries in 1900.

Country.	Value.		Per cent.
	Marks.		
United States	1,020,800,000	$242,950,400	16.9
Great Britain	840,700,000	200,086,600	13.9
Russia	716,500,000	170,527,000	11.9
Finland	13,000,000	3,094,000	.2
Austria-Hungary	724,300,000	172,383,400	12
France	305,500,000	72,709,000	5.1
Algeria	8,300,000	1,975,400	.1
Tunis	700,000	166,600	.....
Argentina	234,600,000	55,834,800	3.9
British East Indies	224,700,000	53,478,600	3.7
Belgium	220,500,000	52,479,000	3.6
Netherlands	215,400,000	51,265,200	3.6
Italy	186,400,000	44,363,200	3.1
Switzerland	170,500,000	40,579,000	2.8
British Australia	122,200,000	29,083,600	2
Brazil	115,500,000	27,489,000	1.9
Sweden	104,900,000	24,966,200	1.7
Chile	89,400,000	21,277,200	1.5
Dutch India	83,700,000	19,920,600	1.4
Spain	82,400,000	19,611,200	1.4
Denmark	71,500,000	17,017,000	1.2
Egypt	40,600,000	9,662,800	.7
China	36,000,000	8,568,000	.6
Roumania	35,900,000	8,544,200	.6
Turkey	30,500,000	7,259,000	.3
Guatemala	21,800,000	5,188,400	.4
Costa Rica	4,600,000	1,094,800	.1
Central America	2,500,000	595,000	.....
Norway	20,600,000	4,902,800	.3
Free port Hamburg	20,200,000	4,807,600	.3
British South Africa	18,600,000	4,426,800	.4
Portugal	17,600,000	4,188,800	.3
Japan	16,400,000	3,903,200	.3
Uruguay	15,400,000	3,665,200	.2
Mexico	12,900,000	3,070,200	.2
Cuba and Porto Rico	11,800,000	2,808,400	.2
Ecuador	10,800,000	2,570,400	.2
Dominica	5,300,000	1,261,400	.1
Haiti	4,700,000	1,118,600	.1
Venezuela	9,700,000	2,308,600	.2
British West Indies	9,500,000	2,261,000	.2
Servia	9,400,000	2,237,200	.1
Greece	8,500,000	2,023,000	.1
Bolivia	7,600,000	1,808,800	.1
Transvaal	7,400,000	1,761,200	.1
Peru	7,000,000	1,666,000	.1
British West Africa	28,200,000	6,711,600	.5
Portuguese West Africa	6,600,000	1,570,800	.1
All other countries	71,400,000	17,093,200	1.2
Total	6,043,000,000	1,438,234,000	100

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Exports.

Country.	Value.		Per cent.
	Marks.		
Great Britain	912,200,000	$217,103,000	19.2
Austria-Hungary	510,700,000	121,546,600	10.7
United States	439,700,000	104,647,600	9.3
Netherlands	395,900,000	94,224,200	8.3
Russia	324,900,000	77,326,200	6.9
Finland	34,200,000	8,139,600	.7
Switzerland	292,100,000	69,519,800	6.2
France	278,500,000	66,283,000	5.9
Belgium	253,100,000	60,237,800	5.3
Sweden	138,300,000	32,915,400	2.9
Italy	127,300,000	30,297,400	2.7
Denmark	125,500,000	29,869,000	2.6
Norway	70,600,000	16,802,800	1.5
Japan	70,400,000	16,755,200	1.5
British East Indies	70,000,000	16,660,000	1.4
Free port Hamburg	69,200,000	16,569,600	1.5
Argentina	64,000,000	15,232,000	1.4
Spain	54,300,000	12,923,400	1.1
China	52,900,000	12,590,200	1.1
British Australia	47,900,000	11,400,200	1
Brazil	45,700,000	10,876,600	1
Chile	39,900,000	9,496,200	.8
Turkey	34,400,000	8,187,200	.7
Mexico	28,100,000	6,687,800	.6
Dutch India	27,300,000	6,497,400	.6
Roumania	25,400,000	6,045,200	.5
Portugal	20,700,000	4,926,600	.4
British North America	20,000,000	4,760,000	.4
Egypt	15,700,000	3,736,600	.3
Dutch West Africa	13,000,000	3,094,000	.3
British South Africa	12,500,000	2,975,000	.3
Uruguay	12,000,000	2,856,000	.3
Cuba and Porto Rico	11,800,000	2,808,400	.3
Peru	9,900,000	2,356,200	.2
Servia	8,800,000	2,094,400	.2
Greece	6,500,000	1,547,000	.1
Philippines	6,300,000	1,499,400	.1
Central America	5,600,000	1,332,800	.1
Ecuador	5,500,000	1,309,000	.1
Free port Bremen	9,500,000	2,261,000	.2
British West Africa	7,600,000	1,808,800	.2
Portuguese East Africa	6,100,000	1,451,800	.1
All other countries	43,600,000	10,376,800	.9
Total	4,752,600,000	1,131,214,800	100

COMMANDING POSITION OF THE UNITED STATES IN GERMAN TRADE.

It thus appears that the United States not only retains its commanding lead as the country having by far the largest and most valuable direct export trade to Germany, but it has passed Russia and risen from fourth to third place among nations in respect to the bulk and value of imports from Germany. Taking the entire American continent, including the West India Islands, into the account,

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we find that the total imports from the Western Hemisphere to Germany rose from 904,000,000 marks ($215,152,000) in 1891 to 1,598,000,000 marks ($380,324,000) in 1900, of which 1,020,800,000 marks ($242,950,400), or 64 per cent of the whole amount during the latter year, came from the United States.

The total exports from Germany to the Western Hemisphere rose from 528,000,000 marks ($125,664,000) in 1891 to 698,000,000 marks ($166,124,000) in 1900, of which the share of the United States rose from 358,000,000 marks ($85,204,000) to 439,700,000 marks ($104,648,600) during the same period. In other words, the United States takes more than 63 per cent of all German exports to the American continent. Such is the record down to the close of 1900. It remains to follow the comparison down to the close of the fiscal year which ended on the 30th of June, 1901.

The first six months of 1901 show an increase in the bulk of imports to 207,684,972 tons, as compared with 202,503,960 tons for the same months of 1900. Exports, on the other hand, have dropped from 158,670,604 tons during the first six months of 1900 to 150,488,604 tons during the same period this year. This is the first sign, in the official statistics, of the shadow that has fallen upon the long-sustained, progressive prosperity of the Fatherland.

An examination of the export returns of the United States consulates in Germany shows that American trade had at first something to do with this decline, but that it has since recovered and is now (September 30) at the highest pitch of activity. During the first quarter of 1901, the exports declared at the United States consulates of North Germany were $4,506,132 less than those of the same quarter in 1900. During the June quarter this loss was made up, and the totals for North Germany showed an increase of $1,340,268 over those of the same period a year before. The total exports of Germany to the United States during the first six months of 1901 amounted in value to $46,799,666.39, against $50,277,685.92 for the same portion of the previous year. This loss of 3,478,019.53 did not, however, balance the gain during the last six months of 1900, so that the grand total of German exports to the United States during the fiscal year ended June 30, 1901, reached $99,887,013, a net gain of $1,074,853.96 over the preceding year.

It will be interesting to examine how and to what extent the present industrial depression in Germany is affecting its imports of raw materials and food products from the United States. For this inquiry, we take a few leading items from the record of the six months January 1 to June 30, 1901, the statistics of which are given in metric tons of 2,204.6 pounds avoirdupois.

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Imports from the United States during the first six months of 1900 and 1901.

Article.	First six months—	
	1900.	1901.
	Tons.	*Tons.*
Raw cotton	155,706	142,892
Cotton waste	6,667	5,724
Wheat	256,208	389,940
Rye	14,793	15,979
Oats	17,625	37,707
Barley	38,873	7,091
Corn	546,662	571,104
Raw tobacco and stems	6,433	5,800
Hides and skins	3,963	2,149
Lumber, timber, and staves	131,655	107,109
Meats, all kinds	8,659	7,086
Petroleum and products	367,495	374,128
Pig iron	5,787	9,309
Cotton-seed oil	9,138	10,918
Copper	33,762	23,135

The one significant item in the foregoing list is the falling off in imports of American copper, which is a direct measure and indication of the declining activity in manufactures of electrical machinery and the temporary suspension of many new lighting, power, telephone, and other enterprises, which are large consumers of copper.

Both American wheat and corn show a substantial increase during the past six months over the same months of last year, and it is likely that these will be still further augmented during the final half of 1901 by the scanty harvests of the past summer throughout eastern Germany.

POPULATION AND BUILDING TRADES.

The census of Germany, taken on the 1st of December last, showed the total population of the Empire to have been at that date 56,345,014 souls, an increase of 4,065,113, or 7.8 per cent, since the last previous census, taken December 2, 1895. In the city of Berlin, the increase during the past five years was 211,022, or 12.3 per cent; while that of Westphalia, the great industrial province of Germany, was 18 per cent; Rheinland, 12 per cent; and Brandenburg, 10 per cent. In the strictly agricultural provinces—Posen, Pomerania, and Mecklenburg—the increase ranged from 1 to 3 per cent, and this sharp contrast between the growth and population and wealth in the industrial and rural provinces alarmed the agrarian class and stimulated their demand for governmental protection for their struggling interests.

One of the notable results of the rapidly increasing population was a serious scarcity of dwelling houses, which, during the summer

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and autumn of 1900, became so acute in Berlin, Leipzig, and other large cities that legislative and administrative remedies were widely proposed and discussed. Careful study of the subject brought out the facts that the pressure for houses was not due wholly to increased population, nor the thronging of the rural classes to cities and towns, but also to the fact that higher wages and increased prosperity had enabled many families, including parents and married children, who had formerly been forced to occupy one dwelling, to separate into several households, and moreover that better wages and shorter hours of labor had created a demand for more pleasant and comfortable homes in which to spend hours that had formerly been devoted to toil. The result of all this was to give a great impetus to the building industry, which reached its climax last year, but has since declined to comparative dullness under the influence of hard times, high rates for money, and the generally unpromising outlook. The degree of this backset in the building trades will be illustrated by the fact that in Berlin, where during the fiscal year 1890–91 442 building sites, valued at 143,000,000 marks ($34,034,000), were sold, the record of the year 1900–1901 shows sales of only 155 building sites, with an aggregate value of 53,000,000 marks ($12,614,000).

GERMAN SHIPBUILDING IN 1900.

In the department of shipbuilding, Germany still shows an unimpaired and extraordinary activity. There are in the industrial history of the world few chapters comparable to that which records the development of steel-ship construction in this country since 1890. From the most trustworthy statistics that can be obtained, it appears that there were in construction during 1900 in private German yards on home or foreign account, and in foreign yards on German account, 693 vessels of 763,284 gross tons register. Of these, 493 were steamers, with an aggregate registry of 700,848 gross tons. The 200 sailers built last year registered 62,436 tons, an average of 312, which shows that they were mainly small vessels for fishery and the coasting trade. Of the total number on the stocks, 447 vessels of 382,072 tons gross were completed during the year, leaving 297 in construction at the end of December, most of which have since been finished and put into commission. Altogether, there were launched in 1890 from German yards 385 vessels, and in foreign yards for German owners 62, an aggregate output of 447 ships of 382,070 gross tons register. Deducting from this the 194 vessels of 112,868 tons built in German shipyards for foreign owners, it is found that 253 vessels of 269,202 tons were added to the merchant marine under the German flag during the year.

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The following interesting comparison of the tonnage of the leading steamship lines of the several maritime nations at the close of 1900 will show how valiantly the two principal German companies maintain their position in the front rank:

Line.	Flag.	Tonnage.
Hamburg-American Line	German	615,000
North German Lloyd	do	540,000
British India Steamship Navigation Company	British	380,000
Elder Dempster, Limited	do	375,000
Leyland (Morgan)	American	325,000
Peninsular and Oriental	British	315,000
Union Cape Line	do	245,000
Messageries Maritimes	French	245,000
Nippon Upsau Kaischa	Japanese	195,000
Navigazione Generale	Italian	180,000
Russian Shipping and Commercial Company	Russian	165,000
Austrian Lloyd	Austrian	155,000
Forenede Dampskips	Danish	130,000

The contest for speed supremacy in the trans-Atlantic passenger and mail traffic seems to have been definitely abandoned to Germany by other maritime nations, and it is now a duel between the two leading German lines, whose experience has demonstrated what had been previously doubted, viz, that the largest and fastest ships, however great the cost of adding a knot or two per hour to their speed, are the most profitable, and are preferred by the class of trans-Atlantic travelers who are ready and eager to pay extravagant rates for passage on lines which can cut down the transit from continent to continent by a few hours only. Of the 21 steamships of 10,000 tons or over which were afloat in 1898, England owned 6, Germany 10, the United States 4, and Holland 1. In 1901, there are 61 of these leviathans in commission, of which 26 fly the British flag, 24 belong to Germany, 6 to the United States, 3 to Holland, and 2 to France.

Not only were the shipbuilding industries in Germany active during the past year, but from all that can be ascertained they were exceptionally profitable. It is stated in a leading financial journal that the aggregate dividends paid by thirteen of the largest German shipyards in 1900 amounted to 107.5 per cent of their actual capital, as against 68 per cent in 1896. One company, the Flensburg, paid 18 per cent on its entire stock; and the Vulcan Company, of Stettin and Bremen, which builds the greyhounds for the North German Lloyd and Hamburg-American companies, paid 12 per cent on its shares. Notwithstanding the troubles in Asia, which reacted more or less upon all Eastern trade, the freight carried on the subsidized lines of the North German Lloyd Company to China and Australasia amounted to 190,584 tons, valued at 180,421,000 marks, against 179,719 tons, valued at 165,268,000 marks, in 1898. These totals do

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not include the precious metals, which form a large percentage of the valuable freight carried by these lines.

THE MINING AND METAL INDUSTRIES.

During the first eight months of 1900, the activity in the German mining industries was unprecedented, so that, notwithstanding the reaction which began during the autumn months, the general record surpassed that of any previous year. The following statement shows (in metric tons) the total output of the principal minerals during the past three years:

Minerals.	1900.	1899.	1898.
	Metric tons.	*Metric tons.*	*Metric tons.*
Coal	109,271,726	101,639,753	96,309,652
Lignite	40,279,332	34,204,666	31,648,898
Rock salt	974,784	861,123	807,792
Kainite	1,178,527	1,108,159	1,103,643
Other potash salts	1,874,346	1,384,972	1,105,212
Mineral oil	50 375	27,027	25,989
Iron ore	18,964,367	17,989,635	15,901,263
Zinc ore	639,215	664,536	641,706
Stone ores	148,230	144,370	149,311
Copper ore	747,775	733,619	702,781
Silver and gold ore	12,537	13,506	14,702
Pyrites	169,447	144,623	144,849

With the exceptions of zinc and silver ores, the output of 1900 thus exceeded that of any previous year. The production of metals during the same three years was as follows:

Metals.	1900.	1899.	1898.
Iron ..... tons...	8,494,852	8,117,594	7,288,343
Zinc ..... do.....	153,350	153,155	154,867
Lead ..... do.....	121,513	129,225	132,742
Copper ..... do.....	30,929	34,634	30,695
Silver ..... kilograms...	415,735	467,590	480,578
Gold ..... do.....	3,050	2,605	2,847

The value of the pig iron produced in Germany rose from 216,300,000 marks ($51,579,400) in 1893 to 549,100,000 marks ($130,685,800) in 1900, an increase of 332,800,000 marks ($79,206,400), or 154 per cent, in seven years.

THE TURN OF THE TIDE OF GERMAN PROSPERITY.

It is generally conceded that the climax, or high tide, of German prosperity was reached during the spring months of 1900. At that time, there were engaged in mines and manufactures 20,253,241 persons, or 39.12 per cent of the population; in agriculture, 18,501,307,

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or 35.74 per cent; in commerce, 5,966,846 persons, or 11.52 per cent; in the army and liberal professions, 2,835,014, or 5.48 per cent; domestic service, 886,807, or 1.71 per cent; unoccupied, 3,327,069, or 6.43 per cent. When it is remembered that industries and mining occupy only 27 per cent of the population of France and 24 per cent of that of the United States, it will be seen how far the rural agrarian German states of 1870 have been converted into an industrial nation under the Empire. As population increased and young men and women from the rural districts flocked in constantly increasing numbers from the farms to the cities and manufacturing towns, agriculture fell year by year farther behind meeting the requirements of the people for food, so that notwithstanding a good average harvest the cereal imports of 1900 reached the following ominous figures in excess of exports:

	Tons.
Wheat	907,523
Rye	848,441
Oats	358,346
Barley	731,791
Wheat flour	222,283
Corn	1,382,908

Such was the situation when the clouds, which had been gathering for several months, burst and rapidly overspread the sky. During the summer, business became more and more stagnant and depressed, and the autumn failed to bring any sign of revival. Capitalists became timid and apprehensive; factories and industrial establishments of most kinds began to discharge employees and to shorten the working hours of those who were retained; industrial stocks declined in value out of all proportion to the falling off of business; and by the end of November, Germany was facing an economic crisis the extent and duration of which could be but dimly perceived. By the middle of January, fifteen branches of industry in Berlin, which employed in normal times 83,319 operatives, had discharged 22,629 men for want of work. Even the great steel works of Frederick Krupp, at Essen, turned adrift several thousand of their employees, and the Berlin Tageblatt estimated that one-fourth of all the working people of Germany were idle or insufficiently employed. Spring came, the war in China was over, but the hoped-for revival did not come. The depression continued until on the 25th of June last occurred the failure of the Leipziger Bank, one of the first and worst of a long series of failures and suspensions of moneyed institutions which had been the mainstay and support of thousands of manufacturing, mining, building, and inventive enterprises that had helped to make the prosperity of Germany. To complete the disaster, it was found that the long, snowless winter

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had seriously damaged the grain fields of eastern Prussia, and cut off a large percentage of the average yearly food supply.

Reams and volumes of philosophic essays, editorials, and memorial addresses have been written and printed to analyze, define, and explain the nature, causes, and probable duration of the disaster which overtook Germany at the beginning of the twentieth century. The reasons assigned are many and ingenious; they can only be imperfectly summarized in a report of this character.

Following the successful wars of 1866 and 1870, and the unification of the Empire, the political prestige and industrial progress of Germany, founded as they were on advanced technical knowledge and the abolition of previous local restrictions upon corporate and individual enterprise, developed rapidly. The accumulation of capital was such that the rate of interest, which had stood at 5 to 7 per cent for generations, began to decline, so that the German states, led by Prussia, refunded their bonds at 4, 3½, and 3 per cent. These conversions fell heavily upon the well-to-do middle classes, who, disdaining the lower rates of interest, abandoned Government securities and invested their capital in private enterprises, which yielded a much higher percentage. The result was to place an enormous amount of money at the disposal of promoters. Vast manufacturing and commercial schemes were floated, the capital of banks and other corporations was largely increased; the metal, building, and electrical industries were stimulated to feverish development; speculation of all kinds became rampant; and Argentine, Chinese, and other foreign bonds poured into the German market and absorbed large sums of money which should have been kept at home. All these results are traced by a certain class of theorists to what they call the premature refunding of the various German State securities at rates so low that they ceased to serve as an absorbent and balance wheel of the people's wealth.

However true or untrue this theory may be, the facts were that the mortgage banks and municipalities found difficulties in maintaining their securities at 3 and 4 per cent; trade, mining, and manufacture got into the hands of powerful syndicates, which were very effective so long as everything was prosperous and on the upgrade, but, as is now claimed, behaved badly by keeping up prices of coal, coke, and other staple necessities when the reaction had come and everyone needed cheap fuel and raw materials to enable them to weather the storm. Moreover, many of the selling syndicates maintained their home prices unchanged, while pouring their surplus products into foreign markets at whatever prices they could get. As a result of all this, there is a general complaint that despite dull

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times, low wages, and growing scarcity of employment, the cost of home-grown products and German-made goods has remained practically unchanged. Thus, the coal and coke syndicates, while restricting their output to fit the declining demand, keep up the home-market prices of 1899, while shipping large quantities abroad which are sold at rates far below the German market. It is charged that steel plates and sheets sold by the Westphalian Syndicate to Dutch middlemen have been sold by them back to German shipyards and reimported cheaper than the shipbuilders can buy them direct from the syndicate, and this in spite of the import duty and double freight. Inevitably, a crisis like this puts all the syndicates very conspicuously on trial, and they have simply followed the natural law of self-preservation by taking care of themselves, irrespective of what might happen to others.

AMERICAN COMPETITION AND TARIFF REVISION.

But no study of the present situation in Germany can be more than superficial which fails to take account of two outside influences of momentous importance, viz, the overshadowing competition of the United States and the tariff legislation now impending in Germany. The experience of recent years has shown beyond hope of question that iron, steel, and a number of other leading products can be produced in the United States in practically unlimited quantities at prices with which Germany, despite her advantage of less costly labor, can never hope to compete. It is recognized by intelligent Germans that in future industrial and trade competitions that fine composite product of American racial qualities, institutions, and methods, the workingman who thinks, will, in combination with our unequaled resources, turn the scale in favor of the United States. Every step of American progress and development is watched and studied with the keenest interest, and the report of the completion of the steel makers' syndicate—by which certain working expenses might be reduced and consummate management secured throughout—fell like a pall upon European industrials and gave the Berlin Bourse one of its blackest days in a gloomy year.

The trade balance of the United States at the close of the fiscal year 1901 produced a profound impression in this country. It seemed to confirm the direst predictions of a certain class of economic writers, who since 1898 have been saying that the time was rapidly coming when European nations would be forced to combine for mutual protection against the American Republic. The financial and daily press were filled with dissertations on "The American danger," and the Central Bureau for the Preparation of Commercial

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Treaties at Berlin published a brochure by Baron von Waltershausen, professor of political economy in the University at Strassburg, which discussed elaborately the whole subject under five heads, viz: "The United States trade balance," (2) "Export of manufactures," (3) "Nature of United States imports," (4) "The United States as creditor in the world's economic system," and (5) "Measures of protection for European countries, notably Germany." Rarely, if ever elsewhere, has the new position of the United States among nations been more powerfully and vividly pictured than in this memorable essay, in which it was shown, among many other things, that whereas hardly six years ago the Deutscher Bank took about one-fourth of a $100,000,000 loan issued by the United States Government, the American trade balances of the last three fiscal years, 1898, 1899, and 1900, had reached the amazing total of $1,622,000,000—almost double the war indemnity paid by France to Germany—and had reversed the position of the Union and made it the creditor, instead of the debtor, of Europe. The learned professor sees in the future only increasing indebtedness of Europe to America; the absorption by American capital of European state, municipal, and industrial securities, with the resulting diminished ability of the Old World to endure taxation; the growth of unproductive indebtedness; emigration of manufacturers and skilled operatives; transplanting of industries; diminished employment for labor; and, finally, weakening of national financial and military strength. "The United States, on the contrary," says the memorial, "will, with increasing growth of their economic power, gain in political might. Already, they enlarge their Army and Navy. They will in the future acquire colonies, call the Pacific Ocean their own, and realize their ideal of international arbitration by becoming themselves the arbitrators."

Against this ominous future, Professor von Waltershausen—who on this point voices with substantial accuracy the most intelligent opinion of Germany and confirms the enunciation made by Dr. Vosburg-Rekow a year ago—concludes that the formation of a European customs union against the United States is impracticable, owing to international and racial rivalries and jealousies, and that it only remains for the different European states, when negotiating commercial treaties between themselves, to differentiate against the United States by excluding American imports from the special rates granted to each other, and, further, to agree upon measures to be adopted by all European states in case of a tariff war between any one of them and the American Republic. Finally, the professor recommends to Germany a general or maximum tariff, with elastic facility to increase the rates to any point that may be necessary for protection against the American invasion.

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PROPOSED TARIFF REVISION.

From this memorial, with its frank recognition of the potency of American competition and its ingenious though academic discussion of protective remedies, we come to that more imminent and practical topic, the pending revision of the imperial German tariff. As is well known, the draft of the proposed new statute, which was officially published on the 26th of July last,* roughly doubles the import duties on cereals, meats, and other food products, and, while generally favoring raw materials, increases the duties on practically all manufactured merchandise which is or can be produced in Germany. The full text of the proposed measure has been so widely published that it need not now be rehearsed, and the only remaining point of interest is whether it can or can not be enacted in its present form.

As has been stated in previous reports of this series, the proposed act has been under elaborate and careful preparation during the past three years. Its publication took place before it had been discussed by the Federal Council (Bundesrath), which may make material alterations in the text before it is finally presented for discussion and enactment by the Reichstag. It is expected that it may be thus revised and introduced during the session of the coming winter. If enacted, it will not go into general effect until the beginning of 1904, for the reason that several of the commercial treaties, concluded between Germany and the other nations during the chancellorship of Count Caprivi, will not expire until the close of 1903. There is thus a period of two years and three months during which the new tariff can be discussed and new treaties under it negotiated with other industrial nations.

The publication of the proposed measure with its radical advance of duties on food materials, coming as it did at a period of scant harvests and extreme industrial and commercial depression, has roused a storm of protest and opposition unparalleled in German political history, and an aggressive campaign has been organized by all opponents of the measure. Conventions and mass meetings are being held throughout the Empire to protest and consolidate public opinion against an enactment which would increase the price of food and render still more difficult the struggles of the poor. For the first time, women are taking part in a German political campaign. They have studied out elaborately the influence which the new import duties would have upon the whole economy of family life, and the consequent condition of women and children. More than all, the great industrial associations, the league of manufacturers and their employees, have formed a solid and aggressive front against

*See ADVANCE SHEETS Nos. 1120 and 1133.

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the proposed schedule of duties on food. By all these means and by legislative tactics in the Reichstag, the enemies of the Agrarian tariff hope to either secure a radical revision of the present measure or delay its adoption until the term of the present Reichstag shall expire, and then defeat it in the elections for a new Parliament. The advocates of revision are equally numerous and determined; they are carefully organized and ably led, and the coming debate in the Reichstag will be one of the most memorable contests in parliamentary history.

The associated manufacturers of Germany have recently held a convention and formally notified the Government that their representatives in the Reichstag will support no tariff schedule which maintains the proposed minimum rates of duty on cereals. These, if adopted, would prevent the conclusion of commercial treaties with Russia, Austria-Hungary, Holland, and Denmark, and, by provoking reprisals from those countries, destroy some of the principal export markets upon which German manufacturers now depend. On the other hand, the Agrarian members will oppose any tariff bill which does not fix definitely the minimum rates to which the duties on cereals may be reduced by treaties of reciprocity. It would seem impossible that a measure against which so many powerful influences are leagued can ever become a law in its present form.

Whatever the result may be, there will remain recourse to a new series of commercial treaties, by which the conditions created by the revised tariff act may be adjusted and modified. One of the strong pleas which is urged in favor of high duties is that they will form a convenient basis for negotiations in the field of reciprocity. There is a party in Germany which, following the lead of Professor von Waltershausen, is opposed to the policy of binding Germany by any long-term treaty with a country in which economic conditions change so quickly and powerfully as in the United States.

But if indications can be trusted, the plain, common sense of the vast majority of the nonagricultural people favor a policy of intelligent reciprocity, friendly foreign relations, and commercial peace.

During the period from 1893 to 1900, the years in which the commercial treaties framed by Chancellor Caprivi practically governed the foreign trade of Germany, they saw the imports grow in value from 4,134,000,000 marks ($983,892,000) to 6,043,000,000 marks ($1,438,234,000) and the exports from 3,345,000,000 marks ($796,110,000) to 4,752,600,000 marks ($1,131,214,800) per annum. Those eight years were the golden age of German prosperity and progress, and the experience of this period has disposed a majority of the people to the policy of commercial treaties and a frank recognition of the interdependence of nations which has come with higher

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civilization and modern improvements in communication and transportation. Herr Moeller, the Prussian Minister of Commerce, who is understood to voice the opinions of the Government, openly concedes that the renewal of the treaties will be inevitable. The grumblings of dissent in the Russian press against the new German tariff as now proposed, and the open threat of a tariff war by Hungary if its enactment is persisted in, have produced a painful impression here, while recent Executive utterances in the United States favoring a broad, enlightened policy of reciprocal commerce have been welcomed as a timely keynote to which the best statesmanship of Europe will gladly respond.

It is not to be expected that there will be any general return of prosperity to Germany while these important questions, which underlie the whole industrial and commercial economy of the people, remain unsettled. Every form of construction and development is, and must remain, in abeyance while future rates of duty on materials are uncertain, and the possibility inheres that reprisals and tariff conflicts with neighboring countries may destroy the foreign markets on which German exports depend to-day. It is exceedingly unfortunate for this country that this long period of discussion and uncertainty has fallen upon a situation already so overshadowed and depressed, but it is hoped that the urgent necessities of the case will serve to shape the legislation and hasten the negotiation of treaties which alone can lead to more prosperous conditions.

FRANK H. MASON,
Consul-General.

BERLIN, *October 2, 1901.*

THE TEXTILE INDUSTRIES OF GERMANY.

Among the various products which form a component part of Germany's foreign commerce, textiles hold an important place. The great industries of manufacture and export of silk, cotton, and woolen goods are kept alive by the importation of nearly all the necessary raw materials. The sources from which the materials are drawn, the exports of highly finished products, and the vast economic importance of these industries to the welfare of the German people are subjects which must interest not only American manufacturers of these lines, but many of our merchants and importers as well.

Germany's textile industry, as a whole, stands upon two pillars, both of which are necessary to its maintenance, namely, the unrestricted importation of raw materials and the exportation of products manufactured therefrom.

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RAW COTTON.

The following table will show whence German manufacturers and dealers draw their cotton supply:

Country.	1890.	1892.	1894.	1896.	1898.	1900.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Egypt	843	12,424	11,923	15,774	22,464	25,212
India	50,060	49,539	60,462	58,998	42,219	25,838
United States	125,145	154,484	183,932	197,225	285,958	256,235

Small quantities of cotton find their way into Germany by way of England, Belgium, France, Holland, and Italy. The cotton of Egypt and India can be used only in the manufacture of certain textiles, while American cotton is used in the production of almost every grade and variety. In recent years, India has increased her consumption of home cotton, owing to the gravitation of mills to the point of production. This has caused Germany to enlarge her use of Georgia cotton. Russia supplies one-third of her cotton consumption from Caucasia, Persia, and Turkey, so that very little cotton from those countries finds its way into German markets.

Germany is becoming each year more dependent upon the United States for her cotton supply. The increasing consumption of American cotton at home, together with the success attending our efforts to compete in the markets of the world with cotton productions, is viewed with alarm by German manufacturers. Attempts are being made to introduce the American cotton plant into German West Africa, with a view to become, if possible, less dependent upon the United States.

FLAX.

Germany produces only 10 per cent of the flax needed to supply her mills. In 1900, over 31,000 tons of flax, valued at $5,000,000, were imported into the Empire, fully 90 per cent of which came from Russia. Much of this flax is reshipped by traders in Königsberg and Breslau to France, Bohemia, and Belgium. In former years, Germany produced a much greater quantity of flax than she does to-day. The introduction of cotton as a substitute in the linen industry, together with the development of railways in Russia, enabling that country to move her flax crop with ease, has had much to do with the decline of flax raising in Germany.

HEMP AND JUTE.

Germany produces but little hemp. Vast quantities, however, are imported from Russia and Italy. In 1900, more than 45,000 tons of hemp, valued at $6,000,000, were imported. Tow and oakum

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were also imported from Russia in large quantities. Jute, which is raised only in British India and China, is gradually securing a prominent place in the manufacture of textiles. Germany imports annually about 70,000 tons.

WOOL.

Sheep raising in Germany is rapidly on the decline. Pasture lands adapted to grazing have been compelled to give way to the plow, and cheap ocean freights, which have enabled the woolgrowers of Argentina, Australia, and Cape Colony to underbid home producers, have sealed the fate of this industry in Germany. In 1860, there were 28,000,000 head of sheep in all the different states which to-day compose the German Empire. In 1873, this number had been reduced to 25,000,000. The statistics for 1883 show 19,190,000, and for 1892 only 13,590,000. In the fall of 1897, there were 10,000,000 sheep in Germany, or a decrease of almost 300 per cent in forty years. This is the more significant, when we consider that mutton forms a staple food product in the sustenance of any people, and especially so in Germany, where the inhabitants increase at the rate of 800,000 annually. To-day, Germany is only able to supply 25 per cent of the wool necessary for her textile industries.

In 1900, nearly $50,000,000 worth of imported wool was consumed by the textile industries of the Empire. The following statement will show from what countries most of these imports come, including wool, carded and otherwise: also all grades and qualities:

	Tons.
Belgium	14,965
France	7,194
Great Britain	18,054
Cape Colony	16,348
Argentina	123,148
Australia	83,174
Total	262,883

RAW SILK.

In a report to the Department under date of June 15 (see CONSULAR REPORTS No. 252, September, 1901, page 141),* I called attention to the several attempts to cultivate silkworms in Germany. As far back as 1850, experiments were commenced along this line and they have often been repeated during the intervening years. The climate is not adapted to the culture of the mulberry, and thus far no equivalent has been discovered which will produce the same results. It is safe to predict that attempts to raise silkworms in

*Also ADVANCE SHEETS No. 1085.

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Germany will be confined chiefly to experimental stations, it being quite out of the question to establish a paying industry in such an uncertain climate. German imports of silk in cocoon are insignificant, and are gradually on the decline. In 1900, only 68 tons, valued at $65,212, were imported.

RÉSUMÉ.

The total imports of raw material necessary to sustain the various textile industries of Germany amounted, in 1900, to $183,069,600; the import of piece goods, finished and otherwise, and all textiles, either manufactured or in an unfinished condition, amounted to $90,083,000.

The total exports of textiles from the German Empire in 1900 amounted to $242,879,000. Ten years ago, the exports were about the same, for which there are two reasons. Many foreign markets, which were heavy buyers of German textiles ten years ago, are partially covering their demands to-day from home production. The gradual development of similar industries in countries like the United States has been felt in Germany. Again, the rapidly increasing demand for such goods by the German people has done much to prevent an increase in the exports.

TEXTILE LABOR.

In 1895, there were 993,257 persons employed in factories directly engaged in the manufacture of textiles. The tendency in Germany, with a few exceptions, is for large factories to rapidly absorb small ones.

It is difficult to average the rate of wages in the textile industry, owing to the manifold varieties of production, the different values placed on skilled and unskilled labor, and the employment of women and children. For example, in Silesia, the average rate of wages per capita amounts to $117.81 per annum. This includes an increase in wages of 20 per cent since 1887. It must be remembered, however, that in case of sickness laborers in Germany receive medicine and hospital nursing without cost at the hands of the State. This wage rate would not apply to central and southern Germany, where conditions are materially better. In 1897, the total production of all the textile factories in Germany amounted to $455,674,000. Of this sum, $212,795,800 worth was consumed at home.

COTTON SPINNING.

In this branch of textiles, Germany labors under greater difficulties than does England, Belgium, or Switzerland. The two first-named countries are situated nearer the base of imported raw materials, while Germany must transport these necessities by rail some

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distance inland, thus increasing the cost of production. Switzerland is able to take advantage of cheap water power, which Germany does not possess in a like degree. England also enjoys a class of highly skilled labor, which seldom changes occupation. In Germany, especially in cotton spinning, the class of labor employed is not so efficient, owing to frequent changes of employment.

The task of educating labor up to a high degree of efficiency is difficult, and many generations are necessary to achieve that result. The English cotton spinners have attained such a degree of skill and intelligence that for the most part no supervision is necessary. In Germany, the presence of a technical overseer is indispensable. Another advantage which England enjoys is the cheap price of machinery. Germany imports the major part of her machinery from England, and German wholesale dealers in these machines have not been able, by placing large orders, to overcome the difference caused by freight and tariff. The disadvantages under which German cotton manufacturers labored in former years through the machinations of the Liverpool Cotton Exchange have been entirely eliminated by the rise of the Bremen Cotton Bourse.

COTTON YARNS.

Germany's commerce in yarns for 1900 was as follows:

Description.	Quantity.	Value.
	Tons.	
Imports	21,200	$13,147,600
Exports	10,062	5,640,600

Eighty-eight per cent of all yarns come from England, 10 per cent from Switzerland, and the rest from Belgium, Holland, and Austria. Germany exports yarn to almost every country in the world. In 1895, over 80,000 persons were engaged in cotton spinning. In 1897, the production of yarn amounted to 240,084 tons, valued at $81,991,000.

COTTON GOODS.

There are 150,000 persons employed in Germany in the manufacture of cotton goods. The countries which consume the greatest quantity of these goods are England, Holland, Switzerland, Argentina, and Chile. German export of cottons to South America has, on the whole, declined in recent years. Especially is this the case with Brazil. German emigration to that country has decreased in proportion as that of Italy has increased. The Italian colonists import each year large quantities of cotton goods from their mother

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country. Much of the prosperity in the Italian textile industries within the past few years is due to such markets. Unquestionably, German cottons in South America are being gradually pushed out by Italian competition. In 1899, the total export of German cotton goods was 18,616 tons, valued at $16,160,000.

DRESS GOODS AND TRIMMINGS.

This important branch of the German textile industry gives employment to about 40,000 persons. In 1897, the value of manufactured dress goods amounted to $24,752,000, more than 40 per cent of which was exported to foreign countries.

HOSIERY.

Nearly 100,000 persons are employed in the manufacture of hosiery in the German Empire. The annual output amounts to $35,700,000, of which 65 per cent is exported. The United States buys more hosiery of Germany than does any other country. Next to Great Britain, we also buy the greatest quantity of cotton gloves. Owing to our tariff and the progress made by American manufacturers in the production of hosiery for men and children, only ladies' fast black and fancy hosiery are still purchased in Saxony on the same scale as in former years. It would seem that the increase in German hoisery exports had about reached its limit. Norway and Sweden manufacture hosiery at home, on machines imported from Germany. The same is true of Austria-Hungary. In the countries of the Lower Danube, children's hosiery is being manufactured, which successfully competes with that of German make in almost every country of South America. The export of woolen hosiery to England is on the decrease. Owing to the high tariff of Russia, Chemnitz manufacturers have been compelled to establish branch factories in that country. Similar industries in Catalonia have made the export of hosiery to Spain next to impossible. In South America, India, and China, German hosiery is just able to hold its own against Italian and English competition.

The German hosiery industry is located principally in the Kingdom of Saxony. Labor has been trained to a high degree of efficiency, and the city of Chemnitz supplies the manufacturers with the very best machinery. It is not difficult to create a hosiery industry in any country for the cheaper quality of goods, provided labor may be had at reasonable rates. Such is the case in Italy, Spain, and Bohemia. These countries, which formerly drew large quantities of hosiery from Germany, have completely emancipated themselves, so far as supplying their own consumption is concerned, and are now competing in foreign markets with German goods.

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LACES AND EMBROIDERIES.

This industry demands the greatest skill on the part of labor employed. There are some 50,000 persons engaged in making lace and embroidery in Germany. The production annually amounts to $14,000,000, of which fully 80 per cent finds its way into foreign markets. Great Britain and the United States buy more German lace than all other countries combined. In 1900, 340 tons of tulle or net lace, valued at $1,332,000, were imported into Germany, 95 per cent of which came from England, and the rest from Switzerland. The so-called Voigtland is the seat of the German curtain industry. The competition in this article between Plauen and St. Gall is becoming sharper every year. German manufacturers of tulle are in favor of a higher duty on imported English tulle; but lace makers, fearing Swiss competition in foreign markets, will probably prevent any increase in the tariff on this article.

LINEN GOODS.

The German linen industries are located in Silesia, Lower Lausitz, Saxony, Westphalia, Wurttemberg, and Alsace. The statistics for 1897 placed the number of persons employed at about 80,000. In 1900, the export of tablecloths, sheets, and handkerchiefs to the United States amounted to nearly $1,000,000. The annual import of linen yarns amounts to $5,000,000. Thus, Germany is dependent upon foreign countries for fully 75 per cent of this yarn, the greater part of which comes from Bohemia.

CORDAGE, THREAD, ETC.

There are more than 20,000 persons in Germany engaged in making cordage, thread, fishing nets, sails, sacks, etc. The annual output amounts to $4,000,000, one-fourth of which finds its way to Great Britain, Russia, and Denmark.

SILK GOODS.

On the whole, Germany's silk industry is on the decline. High duties, together with foreign competition, have placed German silk producers at a great disadvantage. England and the United States are the two most important markets for German silks and half silks. In 1900, nearly $4,000,000 worth of ribbons, cloth, shawls, etc., was exported to foreign countries. The exports of half-silk goods for the same year amounted to $26,275,000. The total export of all silks combined was $40,000,000, or 75 per cent less than it was ten years ago. There are about 120,000 persons engaged in spinning and weaving silks in this country.

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WOOLEN GOODS.

In 1900, Germany exported woolen goods to the value of $53,000,000. German woolens find their way to every country in the world. Plush goods in bulk go to England and Holland; miscellaneous woolens, to Switzerland, Sweden, Japan, and the United States. The wool-weaving establishments of the Empire give employment to 160,000 persons.

MISCELLANEOUS.

In addition to the above-mentioned textile products, Germany produces carpets, rugs, clothing, corsets, hats, caps, artificial flowers, and plumage feathers. In 1900, the Empire exported $1,500,000 worth of rugs and carpets, chiefly to Denmark, Holland, England, Austria, and Switzerland. Germany also imported 259 tons of carpets from countries which compose the Turkish Empire. The clothing, cloak, and cape industries have an average annual export of $25,000,000. In 1900, the corset exports amounted to $2,000,000, of which 80 per cent went to England. The hat and cap industries give employment to 30,000 people.

GERMAN-UNITED STATES COMMERCIAL TREATY.

This sketch will serve the purpose of showing the importance of the manufacture and export of textiles to a great class of people in Germany. In addition to the 993,000 laborers employed, fully five times this number are indirectly involved. The traders in cotton, flax, wool, and silk, with all their employees, the wives and children of the workmen, the interests connected with the outbound ships from Hamburg and Bremen, with their cargoes of woolen goods, hosiery, cotton and wool gloves, silk goods, trimmings, laces, lace curtains, etc., are all indirectly dependent upon the prosperity of these industries for an existence. So sensitive is the industry, on the whole, to outside influence that its welfare is one of the most difficult problems for the Government to consider when it comes to the question of preparing commercial treaties with other nations. The German Government will strive to negotiate commercial treaties for a long period of time, for the reason that manufacturers, especially those of textiles, having once purchased machinery and schooled labor to the production of a certain line of goods, would be demoralized by being suddenly confronted with a change of policy or a new tariff.

When the time arrives for us to conclude a commercial treaty with Germany, we should, if the policy of reciprocity is to be carried out, aim to retain our present tariff on all German textiles which can be produced in the United States by machinery, while reducing

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the tariff on articles made by hand. The time has arrived for us to put forth every effort to foster and develop the production of textiles within the borders of our own country. We can produce almost all the necessary raw materials, which represents in itself a great saving of time and freight. Care should be taken to assure markets for textiles in advance, owing to the fact that overproduction is the worst enemy to the prosperity of any industry. This is everywhere apparent to-day among the industries of Germany. Our manufacturers should no longer be content with merely selling their surplus to other countries. If Germany can build up a thriving industry by importing all the materials for the production of textiles, what may we not accomplish with these things immediately at hand? American cotton manufacturers, for example, should study German methods of production, with a view of competing in the markets of South and Central America and China.

The development of a great textile industry in America means the further development in the production of such staples as flax and wool, not to speak of cotton. The climate in some parts of the United States is suited to the cultivation of the silkworm and mulberry leaf. Recent experiments have shown that it is not impossible to raise Egyptian cotton in Arizona, New Mexico, etc. Textile machinery can be manufactured by our skilled labor as well as in Chemnitz, Plauen, or anywhere else in the world. The designers, bleachers, spinners, and dyers of Philadelphia and elsewhere in the United States are to-day producing certain grades of textiles cheaper than many made in Saxony, and the wage rate is three times greater than that paid here. The finest and most delicate textiles ever made on machinery are within reach of our workmen. More attention to technical education, more attention to the methods of manufacture, and more careful catering to the foreign markets, and our possibilities in this direction will be boundless.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *October 15, 1901.*

GERMANY'S FOOD PRODUCTS.

The proposed change in the German customs tariff, particularly the high duty on food stuffs, has been severely criticised from all sides, except one. Germany has not the natural resources to supply her people's demand for meats and agricultural products. With a constant increase in population, and in the evolution from an agricultural to an industrial country, it is quite natural that the demand for food would advance and the production decrease. Three decades

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ago, Germany's demand did not exceed her supply; on the contrary, there was a much larger export than import of food stuffs.

The census of 1895 placed the Empire's population at 52,279,901, while the census of 1900 was 56,345,044, an increase of 7.8 per cent over 1895, or 37.2 per cent over the population of 1871.

During the year 1900, Germany had a total import of 7,446,300 tons of agricultural products and meats, valued at 1,762,800,000 marks ($419,546,400); while her export of similar products amounted to 2,659,300 tons, valued at 517,600,000 marks ($123,088,800). The following table, compiled from official statistics, gives more detailed information as to exports and imports of food products:

Article.	Total import.	Total export.	Imported from United States.	Total home production.
	Metric tons.	*Metric tons.*	*Metric tons.*	*Metric tons.*
Meats	47,984	3,832	27,276	(*)
Buckwheat	29,533	126	16,098	(*)
Barley	1,063,515	18,515	118,928	3,002,182
Oats	547,880	21,363	96,009	7,091,930
Corn	1,266,305	74	976,034	(*)
Rye	856,832	106,435	142,997	8,550,659
Wheat	1,179,521	171,380	207,261	3,841,165
Potatoes	183,136	76,242	.....	40,585,317
Dried fruits	49,122	126	17,850	(*)

* Figures not available.

Of Germany's total import for 1900, wheat forms 2.8 per cent; corn, 2.1 per cent; rye, 1.6 per cent; oats, 0.8 per cent. The total value of all imports from the United States for the same period amounted to 1,020,800,000 marks ($242,950,400), or 16.9 per cent of the Empire's total import. The total export to the United States amounted to 439,700,000 marks ($104,648,600), or 9.3 per cent of the entire export during the year in question.

The first effect of an increase over the present import duty on food stuffs will be an advance in price of these articles. The cost of living is at present from 10 to 50 per cent higher than in the United States, while wages are about one-third of those paid at home. To balance the increased cost of living, wages must be increased, which will again enhance the cost of production and the selling price, thus placing the burden of the new duty on the people in general.

In connection with the effect of an increased duty on the American export to Germany, the following official marine statistics will be of interest:

During 1899, 1,058 steamers, with 2,690,313 registered tons, out of a total of 2,336 vessels,* with 4,913,178 registered tons, were

* Vessels from non-European countries only.

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entered at German ports as arrivals from ports of the United States. As to departures to non-European ports, 1,712 vessels, with 3,870,931 registered tons, were cleared; out of this total, 714 steamers, with 2,110,252 registered tons, were bound for the United States. The export from the United States to Germany for the year 1900 amounted to 4,500,000 tons. I have no figures to show the nationality of the vessels conveying this immense cargo, but I am certain that American bottoms did not carry 30,000 tons, and that a conservative estimate would give German bottoms two-thirds of the whole. The 3,000,000 tons, if estimated at an average freight rate of $3 per ton, would show $9,000,000 paid by American exports to German shipowners during 1900.

JOHN E. KEHL,
Consul.

STETTIN, *October 10, 1901.*

MAPLE SUGAR AND SIRUP IN EUROPE.

In compliance with the request of a Massachusetts journal,* a Department instruction was sent June 22, 1901, to certain consular officers in Europe, asking for information relative to the foreign market for maple sugar and sirup. The replies received† follow:

AUSTRIA-HUNGARY.

Consul-General Hurst writes from Vienna:

There is a possibility, although at present a vague one, of creating in Austria-Hungary a market for American maple sugar and maple sirup. These products are now practically unknown in this Monarchy. It is thought, however, that maple sugar could replace, in a measure, the quality of sugar known as muscovado—a light-brown product resembling maple sugar, and largely used by wine manufacturers to add to the fresh-pressed juice of the grape, for the purpose of hastening the process of fermentation, in order to increase the alcoholic contents of the wine. Maple sugar can also be employed as a substitute for cane sugar, used in the manufacture of candy and of chocolate. A well-known firm of confectionery manufacturers in Vienna has, at my request, made exhaustive experiments with maple sugar, with a view to using it in business, and the managers report that it can be well worked up into dark goods—that is, chocolate drops, so-called "rum rocks," and the like—although the maple sugar is too soft to bear much sirup, and makes the Austrian

*ADVANCE SHEETS have been sent to the editor.

†The publication thereof has been delayed, owing to the nonarrival of some of the reports.

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candies harder to handle and also less durable. They state it is exceedingly well adapted, however, for the manufacture of chocolate and of chocolate icings and coatings. The manufacturers say they will readily take it up, if they can have it at a lower price than the cane sugar now used, which they buy at $16.24 for 220 pounds. It would be possible, perhaps, to enter the maple sugar here as a sugar substitute, since the duty on sugar itself is very high. Sugar is one of Austria's chief products, and accordingly well protected. This Monarchy exported to the United States, in 1900, sugar to the value of $1,237,046.60, while the United States, in the same year, sent to this country only $16.24 worth of sugar. In 1896, the export of sugar from the United States to Austria-Hungary amounted to $23,656; in 1897, to $12,207.20; in 1898, to $16,694.40; and in 1899, to $1,520. The duty on sugar is 30 crowns ($6.09) per 220 pounds, and there are additional taxes to the amount of 38 crowns ($7.72)—in all, therefore, $13.81 per 220 pounds, while the price for cane sugar here, per 220 pounds, is $16.24, leaving a margin of only $2.43 to pay for the maple sugar itself. The price of the muscovado sugar varies from 75 to 80 crowns ($15.23 to $16.24) per 220 pounds.

The duty on sirup is also 30 crowns ($6.09), and its entry into this Monarchy is attended by a good deal of formality, a chemical analysis being required. Two samples, each weighing about 1 pound, are taken of the sirup, and one of these is sent for examination to the Imperial Royal Agricultural Trial Station, in Vienna. Brown honey is sold here at 72 crowns ($14.62) per 220 pounds and white honey at 78 crowns ($15.83) per 220 pounds. Potato sirup is sold by the carload at prices varying from 28 to 33 crowns ($5.68 to $6.70) per 220 pounds. The dark honey is used by bakers in preparing a sort of gingerbread known as "Lebzelten," used not only for eating like cake, but, when dried and powdered, as a condiment. White honey is eaten in this country with bread and butter at breakfast or tea. Pancakes, for which maple sirup is traditionally adapted, are a food almost unknown here, and hence a sale for this purpose is confined to those who may have used and relished the sirup in America. As a delicate exotic confection, maple sugar would certainly find a market here. There is no doubt that, if the formidable obstacle of expense in duty and in advertising could be overcome, this palatable, healthful food adjunct, so widely esteemed in America, could be permanently taken up in this part of the world, as has been the maize, which at one time was considered in Europe only fit for fodder.

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FRANCE.

Mr. Gowdy, consul-general at Paris, reports:

The possibilities of a market in France for maple sugar and sirup are not very encouraging, and it is doubtful if there will be any great demand for these products for some years to come.

In the first place, the French people do not consume the same amount of sweet stuffs as we do at home, nor have they been brought up to the habit of eating much sugared food. Treacle and molasses, although obtainable as articles of food, are rarely bought by the average French family.

Maple sugar is almost unknown in the home, and it would take great energy to bring it before the public so as to insure a constant demand. The tariff on sugar and sirup is high.

The French custom duties on sugar are:

Description.	General tariff.	
	Francs.	
In powder:		
98 per cent or less of non-European origin.....per 100 kilograms (220 pounds) net...	60.00	$11.58
More than 98 per cent (actual weight).....do.....	72.00	13.89
Refined:		
Other than candy (actual weight).....do.....	72.00	13.89
Candy (actual weight).....do.....	90.00	17.37
Molasses:		
Other than for distillation, having an absolute saccharine richness of 50 per cent or less.....per 100 kilograms (220 pounds) net...	22.50	4.34
Of more than 50 per cent.....do.....	48.00	9.26
Sirups, bonbons, and candied fruits, the produce of foreign countries.....do.....	72.00	13.89

Roughly speaking, the duty on maple sirup is 2.50 francs (48.25 cents) per gallon.

The maple sugar and maple sirup at present imported into France is purchased for the most part by Americans residing in Paris, and is quite insignificant in quantity, not being more than perhaps $200 worth per annum. Messrs. Burth & Cie., grocers, 73 avenue des Champs-Elysées and 16 rue Lincoln, at present import a little, and keep these goods in stock for their American customers.

The large grocers in Paris who might be persuaded to take up the sale of maple sugar and sirup are:

Felix Potin, 47 boulevard Malesherbes.

J. Damoy, 31 boulevard Sebastopol.

Olida & Cie., 11 rue Drouot.

Land & Co., 9 avenue Victor Hugo.

Cie. Gen. d'Approvisionnement, 29 rue J. J. Rousseau.

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Besides these firms, wholesale grocers who might undertake an agency are:

Lactifer, 168 boulevard de la Vilette.

E. Gillet, 3 rue Payenne.

E. Lagrue, 32 boulevard St. Germain.

GERMANY.

Consul-General Mason, of Berlin, says:

I have waited before completing this inquiry until I could consult Mr. Hilmar Stephany, who is the one man of my acquaintance who has made a practical trial of maple sugar and sirups in this country and can speak from actual experience. Mr. Stephany has for several years past owned and managed a large wholesale and retail establishment in Berlin for the importation and sale of American preserved fruits, wines, biscuits, and a large variety of other American prepared food products, including maple sugar and sirup.

He has just returned from a long visit to California, and adds his testimony to that of other grocers whom I have consulted, none of whom believe that any large demand for maple sugar or sirup can be built up in this country, for the following reasons:

(1) Germans do not eat hot biscuits nor any other form of warm bread. Their only article of food which at all resembles the American griddle cake—viz, the "Pfannkuchen"—is always eaten with powdered white sugar and cinnamon; never with sirup. Buckwheat cakes are eaten here only by Americans. The conditions which make maple sugar a popular luxury in the United States do not therefore exist in Germany and can not be created. Experiment has shown that few things are more difficult than to change the food of a people as fixed in their ideas as the Germans.

(2) Maple sugar and sirup are subject to an import duty of 40 marks per 100 kilograms (equal to 4⅓ cents per pound). Adding this to first cost and expenses of importation, they become when brought here an expensive luxury. With all his efforts, aided by most favorable connections, Mr. Stephany has never been able to sell more than 150 gallons of maple sirup and 320 pounds of sugar in a given year. Their present retail prices are 2.75 marks (65 cents) per quart for sirup and 1 mark (23.8 cents) per pound for sugar, at which rates they rank among luxuries accessible only to people in easy circumstances.

I have been informed that the firm James MacDonald & Co., of Hamburg, has for many years carried on a trade in American honey, maple sugar, etc.; with what success I am unable to state. From all information that I can obtain in Berlin, I should seriously

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doubt whether any important outlet for maple sirup or sugar could be found or developed in this district, and the prospect would be more than usually unpromising in a time like the present, when, owing to the general prostration of industrial and financial interests, meager harvests, low wages, and scarcity of labor, all classes of German subjects are constrained to reduce to a minimum their expenditures for food and other necessities of life.

THE IMPENDING CRISIS IN EUROPEAN SUGAR.

It is generally recognized that the beet-sugar industry of central Europe is approaching a critical conjuncture. Germany, Austria-Hungary, France, and Russia are now gathering a beet crop which will yield an output of sugar far surpassing in quantity that of any previous year.

This overwhelming product comes, unfortunately for Germany, at a time when industrial depression and a short wheat and rye crop have seriously reduced the purchasing capacity of the poorer classes, so that a high commercial authority estimates the decline in sugar consumption in Germany alone during the fiscal year 1901–2 at 75,000 tons. To complete and still further darken the shadow, Cuba has reappeared as a vigorous and threatening competitor in the United States, which, during the past four years, has taken an average of 283,000 metric tons of German sugar, valued roughly at 53,000,000 marks ($12,614,000) per annum.

Under all these conditions, the price of sugar has fallen in the controlling market at Magdeburg to the lowest point reached during the critical year 1894–95, from which it was rescued by an advance in the export bounty and a constantly increasing home consumption of sugar, which was then favored by prosperous industries and growing export trade, which steadily augmented the comfort and purchasing power of a large percentage of the German people. Now, however, it is generally recognized that the only remedy will be in the direction of diminished production, and the chief organ of the German sugar industry declares that a definite and important restriction of the sugar-beet area to be planted next spring has become an unavoidable necessity.

For these obvious reasons, great interest has been awakened throughout this country by the recent visit to Washington of the governor-general of Cuba, and the conviction is growing that, notwithstanding all doubts and suspicions, Cuba is really about to begin the career of an independent state under the generous and sympathetic protection of the United States and under conditions which

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will favor the development of the sugar industry of the island to a point beyond the highest productiveness of former years. The obvious and sustained friendliness of the United States Government to Cuba, the impending increase of sugar production in Porto Rico, Hawaii, and the Philippines, added to the steady and rapid development of the beet-sugar industry throughout a large area of the United States, all point to an inevitable and definite decline in European sugar exports to our country, and confirm the judgment of those who foresee that the only effective remedy for ruinously low prices will be a systematic reduction of beet area and product.

FRANK H. MASON,
Consul-General.

BERLIN, *October 14, 1901.*

SUGAR INDUSTRY OF SAXONY.

The sugar industry of Saxony is comparatively young, dating back about twenty-five years, while the growing of beets and the refining of beet sugar was already an important industry during the last quarter of the eighteenth century in Prussia, Wurttemberg, Baden, Brunswick, and the Duchies of Anhalt.

The cultivation of sugar beets in Saxony first assumed large proportions in 1883, when factories were erected at Markranstädt and Döbeln.

The following figures show the number of acres which have been devoted to raising beets since the establishment of sugar factories in Saxony:

Year.	Area.	Year.	Area.
	Acres.		*Acres.*
1882	1,858	1892	8,898
1883	5,019	1893	10,467
1884	7,905	1894	16,811
1885	5,602	1895	15,617
1886	6,711	1896	16,143
1887	6,855	1897	16,185
1888	7,361	1898	14,184
1889	7,672	1899	13,969
1890	8,530	1900	13,773
1891	7,013		

Most of the sugar beets of Saxony are cultivated in the townships of Leipzig, Döbeln, and Oschatz, in the county of Leipzig. The consumption has kept pace with the increase in the facilities for manufacturing sugar.

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The following table shows the quantity of raw sugar which has been manufactured in Saxony during the last eight fiscal years:

Year.	Quantity.	Year.	Quantity.
	Tons.		*Tons.*
1892–93	8,253.19	1896–97	20,962.33
1893–94	13,859.77	1897–98	19,191.59
1894–95	22,362.8	1898–99	18,341.39
1895–96	18,734.58	1899–1900	16,855.49

The manufacture of crystal and loaf sugar has been entirely abandoned in the Saxon refineries, but the production of liquid refined sugar has greatly increased.

Although the sugar industry of this Kingdom has grown to considerable proportions within the last ten years, it is very insignificant, when compared with that of the whole of the German Empire. At the end of the fiscal year 1899–1900, there were altogether 399 sugar factories in operation in Germany. In these factories 5,645 steam engines, developing a horsepower of 126,349, were in use. Only 4 of these factories were located in Saxony, with 61 steam engines, developing 1,370 horsepower.

Owing to the demand for rye and potatoes in this section, the production of beets has fallen off somewhat within the last few years. Potatoes and rye are used by distilleries in large quantities for making spirits. Another reason why the supply of beets has diminished is because the price of farm labor has advanced so much in some sections that it is no longer profitable for a farmer to devote much time and area to the cultivation of sugar beets.

BRAINARD H. WARNER, Jr.,
Consul.

LEIPZIG, *October 16, 1901.*

APPROXIMATE PRODUCTION OF BEET SUGAR IN 1901.

It is obviously impossible at this early day, when the beet growers are digging up this year's crop of sugar beets and are hauling it to the factories, to give an accurate estimate of the amount of sugar that may be looked for at the end of this season in the chief producing countries of Europe. Mr. Licht, the well-known statistician and perhaps the highest authority on this subject, has published the following figures, which he himself guardedly presents for what they are worth:

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Approximate estimate of the European beet-sugar crop compared with former years.

Country.	1900–1901.	1899–1900.	1898–99.	1897–98.
	Tons.	*Tons.*	*Tons.*	*Tons.*
Germany	1,979,098	1,798,631	1,721,718	1,852,857
Austria	1,094,043	1,108,007	1,051,290	831,667
France	1,170,332	977,850	830,132	821,235
Russia	920,000	905,737	776,066	738,715
Belgium	340,000	302,865	244,017	265,397
Holland	178,081	171,029	149,763	125,658
Other countries	387,450	253,929	209,115	196,245

According to this estimate, there would be an increase in this year's yield amounting to about 551 tons.

The Centralblatt fuer Zucherindustrie, another careful computer, after looking over the ground, publishes the following approximate estimate of the sugar crop of 1901 in Europe:

	Tons.
Germany	2,125,000
France	1,190,000
Holland	200,000
Austria	1,225,000
Russia	1,000,000
Other lands	450,000

Reports from the United States are very encouraging, considering that the beet-sugar industry there has just been fairly started and has many difficulties to contend with that are unknown in Europe. The American beet crop will be larger than ever before, and, altogether, it would not be surprising if the world's production this year would amount to 6,600,000 tons of beet sugar. All the figures obtainable up to the present seem to safely show one fact, and that is that there will be considerably more sugar this year than there was last, particularly as all the cane-growing countries, notably Cuba, are reporting a considerable increase over former years.

At present, the market in Europe for beet sugar is very weak; prices are extremely low, and have been for some time. There will probably be some legislation next winter affecting several sugar-producing countries. The question of reducing sowings next season is receiving attention in various countries; and there is again considerable talk of a conference to meet this winter, for the abolition of sugar bounties.

HENRY W. DIEDERICH,
Consul.

BREMEN, *October 12, 1901.*

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FRENCH SUGAR YIELD OF 1901-2.

Recent statistics estimate the sugar yield in France for the season of 1901–2 at 1,100,000 tons of raw sugar, against 1,140,000 tons for the preceding season.

Owing to the nature of the soil and variability of climate, the yield is irregular. A few sections only have produced the same quantity and quality as in 1900.

In fifty-four refineries, there is a falling off in beet produce, but the excess of yield in other quarters permits the following estimate for the whole of France: Nine million three hundred and fifteen thousand tons of beets for sugar manufacture, against 8,717,439 tons last year.

The industrial yield is inferior to that of last year, so that instead of 11.95 per cent in refined sugar, the yield for the current year will figure probably at 10.5 per cent, the produce from molasses drippings included. The harvest is late this year, and favorable weather may change the conditions upon which the above estimate is based, but the mean yield in refined sugar will not in all probability exceed 11 per cent nor fall below 10 per cent.

Estimating a yield of 10.5 per cent in refined sugar from 9,315,000 tons of beets, the French production figures at 978,000 tons of refined sugar.

W. P. ATWELL,
Consul.

ROUBAIX, *October 23, 1901.*

FRANCE AND HER COLONIES.

The fact that the average Frenchman takes little interest in colonization has been emphasized, within the last four months, in this city. Three colonies have recently sent representatives to the mother country to induce immigration: Mr. Doumier, governor-general of Indo China and Yunnan, has come from his colony; Mr. Rene Garnier, secretary of the Algerian Geographical Society, has come from Algeria; and Mr. Saurin, an important manufacturer, from Tunis. They have visited Rouen in their tour, and the following extracts are taken from their lectures.

INDO CHINA AND YUNNAN.

Mr. Doumier laid stress upon the growing prosperity of the colony, the remarkable increase of commerce with the home country, the security with which France had established herself there, and

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especially the importance of Indo China as a basis for French commercial and territorial expansion in Asia. He said:

Anam and Tonkin have an administration admirably fitted to the needs and customs of the inhabitants. The most cordial relations exist between the civil and military authorities.

At present, there are more than 1,500 miles of railroad, and numerous canals are being constructed. The finances are prosperous, and despite the great expense of newly created roads and ports and of the sustenance of an army of 30,000, there is in reserve more than $5,000,000.

Indo China is a great colony, not because it is double the area of France, but because it represents the beginning of French expansion in Asia. Our object is to become the indispensable furnishers, if not the possessors, of the meridional provinces of China. The French Government must not fear diplomatic complications. During the recent Chinese troubles, our colony was the safeguard of our interests in the extreme Orient. When the day of partition comes France must not recede, but claim the important part to which she has a right, for we are destined to become a great Asiatic power, as well as a great African power.

ALGERIA.

Mr. Rene Garnier referred to the danger of the colonists from other countries crowding out the French. He said:

The French are not sufficiently interested in Algeria. The English, Italians, and Spaniards are overcoming, little by little, the French element. I have come to France to say to manufacturers, to merchants, to farmers, and to young men who have capital, Come to Algeria, where you will find incomparable resources and riches; but come before the best places are taken by foreigners.

It is a country of unbounded fertility, where grow vines, figs, cereals, olives, tobacco, and carob trees. Mines of lead, silver, and zinc abound. Not less than one hundred and fifty-three metallic veins have been discovered. Only thirteen are in exploitation. Oil also exists in the province of Oran, but there is lack of capital to work it. With great expense, we import oil from Philadelphia and Russia, when as good oil lies in our back yard. The same is true in regard to phosphates, of which the beds have an approximate value of 3,000,000,000 francs ($579,000,000). One only—that of Tébessa—is worked.

Vast fortunes could be made by an investment of capital and intelligence in Algerian industries. This is especially true in regard to the canning industry, the transformation of phosphates into superphosphates (which demands only a sulphuric-acid establishment), the industry of wool, and pastry and salt provisions. There exist only a few of these enterprises—all owned by natives, who have come to the conclusion that the economic development of Algeria depends upon themselves.

TUNIS.

Mr. Saurin sounded a similar warning: "The special danger that France encounters in Tunis," he said, "is the slow but continual and powerful invasion of Italian colonists." He stated that they were already four times more numerous than the French, being 80,000 against 20,000, and that it was the duty of the home country to counterbalance this infiltration by peopling Tunis while there was still time.

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He emphasized the point that there was no place for the laborer who had no special knowledge or trade. "Manual labor is not dear. There are natives who work for 30 cents and Italians for 40 and 50 cents a day. Such a condition is advantageous for the farm owner and the renter."

As to the price of land, he said:

A hectare (2.471 acres) costing from $400 to $1,000 in this part of France could be bought in Tunis for $10, $20, and $40; and to become a proprietor, which even with the severest economy is rare in Normandy, is comparatively easy in this colony.

FRENCH EFFORTS AT COLONIZATION.

A shipowner of this city, whose vessels ply between this port and North Africa, offers free passage to colonists—the only cost being 2.75 to 3 francs (53 to 58 cents) per day for what food they eat on board. It is thought that owners of ships bound for other colonial ports will follow this example.

One reason for France's failure in colonization is that the soldier has determined the position and character of her colonies. In Africa, for instance, she colonized with military expeditions; England, on the other hand, with merchants, who have fixed upon the most fertile points with a trader's instinct. In the fight for commercial supremacy, traders are better than soldiers.

Again, the specialties of French manufacture—silks, ribbons, gloves, and articles de Paris—are not what a colonial people desire, and an inability to minister to the more vulgar needs of the multitude has allowed other nations to enter these markets.

THORNWELL HAYNES,

ROUEN, *October 12, 1901.* *Consul.*

AMERICAN TRADE WITH FRANCE.

The following paragraphs are taken from the annual report of Consul-General Skinner, of Marseilles:*

WHEAT AND SEMOLINA.

No complaint has reached me during the last year concerning the accuracy of American inspection certificates. I regret that I have not always been able to say as much in previous reports. The fact that American exporters of grain and other staple products are able to make sales based upon inspection certificates issued under the auspices of various boards of trade is the highest compliment possible to the commercial honesty of our business men, and constitutes an asset of incalculable value, which should be surrounded

*To appear in full in Commercial Relations, 1901.

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by every safeguard possible. American certificates have been accepted in the past to a considerable extent because of unsatisfactory deliveries of grain from other competing nations. The situation elsewhere is improving—very notably in Argentina. Where grain was formerly shipped in open cars and permitted to stand out in all sorts of weather, and then forwarded to destination without any preliminary cleaning whatever, it is now in many instances selected for shipment with every reasonable precaution, sent in box cars, and delivered in good condition. The point which I wish to make prominent is this: Although at present our certificates have value because our exporters understand the wisdom of fair dealing, they are not issued in such a manner as to give the foreign buyer any legal guaranty. We have established recently a Bureau of Weights and Standards, and it occurs to me that this bureau, in connection with the Department of Agriculture, might devise some system of establishing cereal standards at the commencement of every crop year, to be made the basis of inspection certificates. There is to-day no grain standard which the commercial organizations of our country are prepared to accept as absolute, and as long as this condition exists acrimonious disputes are certain to arise.

This year, France again enters the list of wheat-importing nations to an important extent. It is estimated that there will be a shortage of 56,000,000 bushels, and that the United States may reasonably expect to supply through the port of Marseilles about 20,000,000 bushels. In the last ten years, the best wheat crop recorded in this country amounted to 9,945,989 tons. This was in 1899; last year's crop amounted to 8,455,016 tons, and this year's is expected to be materially less. The imports at Marseilles during 1900 amounted to 567,618 tons, of which the United States supplied only 10,543 tons. In normal years, it should be understood that the imports at this city consist almost exclusively of very hard macaroni wheats, received from Algeria, Tunis, and Russia. The fact that these wheats have not hitherto been grown in the United States has aroused a great deal of interest in our country, and both the consular officers and explorers of the Agricultural Department have been very active during the past year in securing information and seed, with the result of a fair prospect that at least 100,000 bushels of true macaroni wheat will be included in the American harvest of 1901. It is hoped that within a very few years our exporters will be in a position to place in this market a fair proportion of the many millions of bushels annually required for the manufacture of semolina, which is produced in greater quantities in Marseilles than anywhere else in the world. The exportations from Marseilles of semolina alone amounted in 1900 to 37,001 tons and

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in 1897 to 64,603 tons. The sole reason for the apparent decrease in the volume of business is the inability of the manufacturers to get the proper kind of wheat. The demand for macaroni and the other products of semolina, which is distinguished from flour by its granulated appearance, has grown by leaps and bounds throughout Europe, and the manufacturers, finding great difficulty in securing the necessary hard wheat, have been obliged to use the so-called "Metadiné" wheats of France, which are half hard and are grown from hard seed. The exportations of edible pastes from Marseilles amounted to 4,914 tons in 1900, and the value of the macaroni and vermicelli exported to the United States during the year 1900 from France, Italy, Spain, and Austria was $749,182.

In a report of this character, I can only briefly supply a few of the more telling facts relating to this industry, which at the present time is of insignificant proportions in the United States. It is felt by all who have investigated the question that the American people have had no opportunity to understand the value of macaroni as a staple article of food, and that future years will develop the American demand, assuring to our farmers the sale at home of all the hard wheat they can produce, without considering the possibilities of entering the European markets.

METRIC SYSTEM.

An incident occurred during the year which is worth noting, as illustrating the desirability of the adoption of the metric system in the United States, which, except Great Britain, is the only important manufacturing nation still employing the old system. In August of last year the United States naval collier *Scindia* arrived at this port, with boiler tubes burnt out, and under urgent orders to proceed to Manila. The ship came to Marseilles, as it was considered, and in fact was, the port best equipped to make the absolutely essential repairs. Every facility was offered for the prompt refitting of the boilers by local contractors, but it was found that all the tubing in the city had been manufactured in France, and according to metric dimensions, and none of it could be utilized in the *Scindia's* boilers without forcing the shells. There was the variation of a hair's breadth in the dimensions, but it was sufficient to prevent the work from being accomplished, and orders had to be cabled to the United States for material, which was brought over on one of the German steamers—probably at express rates—and delivered at Naples, where the repairs were eventually carried out. The ship was delayed two or three weeks, in consequence of the fact that her boilers had been built upon a scale of feet and inches, while European tubing was manufactured according to the metric system.

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MERCHANDISE COVERED BY RECIPROCITY TREATY.

The reciprocity convention concluded with France, under the provisions of our tariff law of 1897, became effective on June 1, 1898. By virtue of that convention, twenty-one classes of merchandise were admitted into France at a low rate of duty, and equally favorable terms were conceded by the United States to importations from France of argols, brandies and spirits, works of art, still wines, and vermuth. The only articles affected by the treaty exported from this port in any quantities are argols, vermuth, and liqueurs. As the treaty has now been operative a sufficiently long time to demonstrate its effect upon exports, the declared values thereof are appended for a series of years, comprising those immediately preceding the negotiation of the treaty, and the three years following:

Exports from Marseilles for the fiscal years ended June 30.

Year.	Argols and tartar.	Vermuth.	Liqueurs.
1895	$204,530.04	$47,277.71	$3,219.79
1896	388,869.51	67,030.83	2,943.86
1897	195,926.25	49,689.05	1,436.35
1898	267,402.32	51,582.91	.....
1899	495,795.07	68,687.53	.....
1900	496,666.00	89,693.50	696.50
1901	322,347.44	88,731.50	333.89

HOW TO WIN TRADE IN FRANCE.

I am continually receiving letters from merchants in the United States, requesting names of dealers in this consular district. I have answered hundreds of such letters with, I am sure, very little definite result.

The inquirers do not realize the obstacles to transacting business with the foreign merchants by correspondence. The difference in the money, in the measures of quantity, and the important matters of duty and freight are not taken into consideration.

The merchants of an inland city like Rheims, with no port of entry, who know nothing about custom-houses, will not take the trouble to translate English letters into French, make the calculations necessary to turn dollars and cents into francs, or English measures into French equivalents, and find out how much the freight and duty will be. It is much easier for them to buy from some distributing center in France, where there are houses equipped to do all this, which have competent salesmen who travel all over the country showing samples, and prepared to state, not the price in dollars and cents free on board in New York, but just the sum

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in French money the merchants would have to pay for the goods delivered at their stations.

My opinion as to the best way to win foreign trade is expressed in a letter to an association in the United States desirous of securing a market in France for a patented article of merit. I quote extracts:

I inclose, as you desire, the names and addresses of two large dealers in hardware, but this is what I advise:

If you are not proposing to send competent men on your own account to canvass France, select the most capable man you can secure and have him go to large distributing centers, like Paris and Havre. There, he should interest merchants in the hardware line who have salesmen and agents all over France. You should try to have every town and village in France visited by active salesmen speaking the French language and carrying samples of your goods.

He who would sell goods in this age of competition must do so by soliciting trade—that is to say, he must have competent agents to send directly to the buyer, or he must pay a commission to an agent who has the equipment to do so.

The merchants of the United States who have established a trade in France have accomplished it by opening general agencies at important points; and these merchants, who are doing a large business, will not sell goods except through their agents.

Selling goods directly by correspondence, thus avoiding all commissions, is plausible in theory, but does not succeed in practice.

WM. A. PRICKITT,

RHEIMS, *October 15, 1901.* *Consul.*

BUSINESS TRAINING FOR AMERICANS IN FRANCE.

In view of the fact that we are finding new markets abroad for our products, I would call the attention of our manufacturers and exporters to one method the European exporter employs to extend and retain trade—a method which, so far as western France is concerned, has been almost entirely ignored by us. The young men of the United States should be given a practical business training abroad. It is just as essential that the American should have a knowledge of foreign business methods as for him to have a knowledge of the foreign language. These two trade weapons should go together, when markets are to be conquered. Although our enterprise and progress are acknowledged, and we have attained a place in the foremost ranks in the commercial world, we can not expect to force our crisp and rapid business methods upon the conservative Frenchman. We may gradually convince him of the superiority of our system, but we must in the beginning make

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certain concessions. Our young men should come to France and obtain employment in some of the large business establishments for six months, one year, or two years, as the exigencies may require. True, wages are low here, but doubtless a number of young men could obtain employment which would at least pay their board, and the experience thus obtained would be beyond value. Large manufacturing and export houses could send young men abroad. In this city of 200,000 inhabitants, I know of but one from the United States who is engaged in business, and he is with a retail firm. Young men from England, Wales, Belgium, and Switzerland are here temporarily, with the leading import houses, getting a practical knowledge of the language and of French business methods. Especially is this true of the coal and the wholesale commission trades, where deals are made for phosphates, lumber, and grain in cargo lots. In such positions, these young men are often able to give valuable pointers to the exporter from their own country. They usually attend to the correspondence from their respective countries, study French, and obtain an insight into the metric system and French peculiarities in business. I am convinced that the sale of American coal in France during the past year would have been doubled, had it not been for lack of information on the part of American producers concerning French trade, and their consequent inability to meet the requirements promptly on this side.

JOSEPH I. BRITTAIN,
Consul.

NANTES, *October 24, 1901.*

FLAX SPINNING IN NORTHERN FRANCE.

There is very little demand for flax at present. A few sales to test the temper of the market were made in Russian earth-retted flax of the new harvest, but they were transacted with caution. Holders of last season's flax of the above description seem desirous of selling, and offer at easy prices. In consequence, old stocks are small.

Reports concerning the quality of the new harvest continue to be satisfactory and the retting is going on well. Combed tow of all descriptions is in demand and prices are firm. The common varieties, however, may be had at a reduction.

There is the usual amount of business in jute, without change in prices, and the mills are well provided. In linen cloth, there is a little more activity. Anticipating a greater demand, several weaving establishments have resumed work on Monday and increased the working hours for the rest of the week. The Syndicate of Flax

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and Tow Spinners of France, however, at its meeting in April, decided to stop work one day weekly for a period of five months, or to reduce production in a corresponding proportion. This decision was made because of the scarcity of raw material and the continued low prices. The agreement having expired, the committee of spinners met again on October 2 and decided to maintain the existing agreement a month longer. A general increase in activity is anticipated toward the end of November.

W. P. ATWELL,
Consul.

ROUBAIX, *October 9, 1901.*

MUNICIPAL KITCHENS IN NANTES.

The city of Nantes has an inexpensive method for supplying food to the destitute, as well as providing them with lodging for the night. For several years, the city has managed a system of municipal kitchens, known as "Les Fourneaux Alimentaires Municipeaux," where persons without money may present tickets and procure a warm, substantial meal. The city has also recently erected one of these buildings, having in connection therewith a dormitory, with beds for the accommodation of about fifty persons. These beds are free to the destitute for a period of three nights, when they are obliged to make room for others. The sick are sent to the hospital. During the stay at the dormitory, each one is given two meal tickets each day. These municipal kitchens are open from the 15th of October until the 15th of April each year, but the dormitory is open during the entire year. Two meals are served each day, the noon meal from 10.30 a. m. until 1.30 p. m., and the evening meal from 5 until 7.30 p. m. With the exception of the kitchen connected with the dormitory, the meals are not exactly free, but the prices are so low that no one is obliged to suffer from hunger. Tickets entitling the holder to one dish of anything on the bill of fare are deposited at the bakeries and tobacco shops throughout the city, where they are purchased by the charitably inclined citizens, who in turn hand them to the applicants for charity.

The following is the bill of fare furnished daily, together with the prices: Beef soup, boiled beef, beef stew, beef with sauce, codfish, pork and cabbage, beef à la ravigote, stewed tripes, eggs à la tripe—each plate 2 cents. Water soup, beans, and rice are furnished at 1 cent per plate. When these kitchens were first opened, the expense to the city was considerable, but during recent years the deficit has been gradully reduced until last year it was only 8,000 francs ($1,544). The total expenses for the same period were 48,000

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francs ($9,264) and the receipts 40,000 francs ($7,720). There is a superintendent over all the establishments, who receives a salary of 250 francs ($48.25) per month. In each kitchen there is a director at 60 francs ($11.58) per month, a cook at 45 francs ($8.68), and an assistant cook at 40 francs ($7.72), all being women. This does not include wages paid in the dormitory.

The following indicates the kind and quantities of food consumed during the past year in the eight kitchens:

	Pounds.
Beans	33,000
Rice	1,540
Salt	9,020
Sugar	440
Pepper	264
Potatoes	110,000
Carrots	8,800
Turnips	8,800
Cabbage	13,200
Leeks	4,400
Onions	5,500
Milk	5,500
Garlic	330
Meat:	
Beef	17,600
Bacon	2,640

The amount expended for fuel was $1,061 for coal and $96.50 for wood.

The privilege of taking meals in these kitchens is not restricted to the destitute class. Many of the laboring men obtain their meals there on account of the moderate prices. A moderately substantial meal may be obtained for 5 cents. For example, the meal may consist of a plate of meat, a bowl of soup, and a small loaf of bread. Wine is not served at any of the kitchens.

JOSEPH I. BRITTAIN,

NANTES, *October 30, 1901.* *Consul.*

AMERICAN COAL IN FRANCE.

I am happy to report the continued and notable success of American coal in this market. The correspondence and reports* preliminary to the actual sale of the American product in Marseilles constitute the most important work of this character undertaken at this consulate, and the large measure of success obtained is highly

* See ADVANCE SHEETS Nos. 292, 336, 394, 648, 661, 850, and 979 (CONSULAR REPORTS Nos. 221, 223, 224, 234, 235, 244, and 248); also Special Consular Reports, Foreign Markets for American Coal.

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gratifying. The arrivals of English and American coals at this port during the first six months of the current year and the year previous are as follows:

Description.	First six months—	
	1901.	1900.
	Tons.	*Tons.*
English coal	389,303	457,752
American coal	97,622	7,739

The total receipts for the year 1900 were 856,038 tons from Great Britain and 118,491 tons from the United States. Steadily increasing shipments are being made from American ports, and the probabilities are that the total receipts at Marseilles during the present year will exceed 200,000 tons.

The business may be said to have passed the experimental stage, and the discussion of terms and conditions is no longer necessary. In face of the very notable decline in freight rates from Cardiff, American coal has succeeded not only in holding its own, but in increasing in local importance, thus tending to disprove the idea that its sale could be undertaken only during the prevalence of abnormal conditions in Great Britain.

The only disquieting element in this commerce is the necessity of employing foreign shipping for the transportation of our product. The promises made that American cargo boats would be supplied for the increasing foreign coal traffic have not thus far been redeemed, and in the meantime the relative cost of freight from Newport News and Baltimore to the Mediterranean and from Cardiff to the Mediterranean has changed not a little, and in favor of the American exporters. A trifle over a year ago, certain cargoes of American coal, landed at Marseilles, were obliged to support a freight rate of 17s. 6d. ($4.25) per ton, while at the present time 9s. 6d. ($2.31) is a fair average price. Last year's prices ranged about 10s. 6d. ($2.55) to Cardiff exporters. This favorable condition of freights is doubtless due to the persistence of the American coal exporters, the increasing favor with which American coal is regarded abroad, and the ability of our people to offer a large volume of business. It has been suggested, also, that an underlying influence has been the fear on the part of British shipowners of American competition in the carrying trade, which caused them to offer fairly attractive terms all along the line, as a possible means of deferring this competition.

ROBERT P. SKINNER,
Consul-General.

MARSEILLES, *October 4, 1901.*

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DEMAND FOR PITCH IN MARSEILLES.

The Compagnie des Mines de la Grande Combe, 17 rue Haxo, Marseilles, inform me that they are desirous of receiving offers to supply about 5,000 tons of coal-tar pitch, for immediate delivery at the port of Marseilles or Cette. This company's annual needs amount to 30,000 tons, and if satisfactory arrangements can be made the contracts will be placed in the United States.

The Compagnie des Mines de la Grande Combe have heretofore placed their contracts for tar (brai) in England, and they intimate to me that if American exporters can deliver this article in Marseilles or Cette for less than 47 francs ($9.07) per ton, it will not be difficult to come to terms. These buyers supply samples to importers, and require that deliveries be in conformity therewith. This merchandise is not packed in barrels by the English exporters, but is dumped into the vessel's hold, like coal. It is probable that a freight rate about on a level with that demanded for coal could be obtained for pitch. My latest quotations for whole cargoes from the United States to Mediterranean ports are 9s. 6d. ($2.31), and still better offers have been made quite recently.

ROBERT P. SKINNER,
Consul-General.

MARSEILLES, *October 23, 1901.*

CHARCOAL IN MARSEILLES.

Charcoal is consumed in very large quantities, not only in Marseilles, but in all southern European countries, and, as there is a steady supply of this article from domestic sources, the sale of imported charcoal would depend upon ability to meet European prices. At the present time, Corsican charcoal is sold to dealers in this city at $1.44 to $1.54 per 220 pounds (100 kilograms), and charcoal from the Department of Var is sold at from $1.99 to $2.31 per 220 pounds. There are no large wholesale importers with whom one could at present expect to establish relations. The charcoal burners from the Department of Var bring their product into this city in carts and offer it for sale in the charcoal market, where the buyers pass from cart to cart, bidding and selecting according to the merits of each particular lot. The Corsican charcoal is handled in a more modern way by a few houses, who receive the charcoal and pay for it with flour and other staple products, thus obtaining a double benefit.

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The conditions existing are such that these dealers would not be disposed to purchase in the United States, even upon more favorable terms.

The tariff upon charcoal imported into France from the United States would be 29 cents per 220 pounds; and if a low freight rate could be secured in some of the small sailing ships which engage in the American trade, if Corsican prices could be met and a superior article of hard-wood charcoal supplied, I could find firms in Marseilles prepared to dispose of such shipments. I have discussed the matter particularly with the house of Giraud fils de Giraud Mur, of 16 rue Breteuil, and they will be glad to hear from American firms, if the latter can make favorable terms.

The retail price of charcoal is 12 francs ($2.31) per 100 kilograms (220 pounds). The following are among the more important dealers in Marseilles: Charbonnerie Provençale, Chemin du Rouet, 29; Marius Leyd & Cie., rue St. Esprit, 29, Capelette; Abril et Bret, Boulevard St. Jean, 56.

ROBERT P. SKINNER,
MARSEILLES, *October 4, 1901.* *Consul-General.*

BELGIAN DEMAND FOR AMERICAN COAL.

The question of cheap fuel for northern Europe has engaged the minds of the people for some years, especially for the past two or three, since the price of coal has advanced so rapidly. This has seriously crippled industries, and, according to the best information I can obtain, this condition will become worse rather than improve. The cost of production must continue to rise—first, because of the increased depth of the mines, which now average more than 1,000 feet in the Liege basin, with veins of coal only about 27 inches in thickness, and, second, because the coal miners are constantly demanding an advance in wages.

The time is ripe for a general move on the part of United States coal exporters. I believe there is a fine opening. The poorer qualities of steam coal sell here at from $2.30 to $2.50 per ton, and medium grades at from $2.60 to $3; furnace coal, from $2.80 to $3, and coke at from $2.50 to $2.80. These prices are at the mines; not even on cars.

This condition of the coal trade has led Mr. Auguste Petit, a leading coal merchant of Verviers, Belgium, with connections at Brussels and Antwerp, to investigate the feasibility of importing American coal. He thinks it can be profitably done, and after an interview with me last week he informed me he would sail for the

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United States about the 1st of November, thoroughly equipped with the necessary information as to the needs here, and prepared to assume a reasonable share of the expense of introducing American coal into this part of Europe. He is desirous of meeting coal producers interested in the export trade. His address will be the Astor House, New York City, after about November 10, 1901.

ALFRED A. WINSLOW,

LIEGE, *October 23, 1901.* *Consul.*

BRITISH DEMAND FOR AMERICAN SHOOKS.

Within the past six months, there has been a considerable increase in the use of American shooks by exporters of lace and hosiery in the Nottingham district, who thus avoid the payment of duty upon the finished boxes or casings. One concern at Manchester (James W. Southern & Son) imports the shooks, knocks up the boxes according to demand, defrays local freight charges to Nottingham and other shipping points, and still seems to do a satisfactory business. Recently, Hobson & Son, Newark street, Sneinton, started in the same line at Nottingham, and it can readily be seen that if even a comparatively small proportion of the direct exports to the United States from this city were cased in American lumber the demand for such lumber would be something of a trade item. The only drawback to a large business in this line appears to be the difficulty encountered by local box makers in securing direct and satisfactory relations with American lumber mills and exporters. Another firm (Robert Ellis & Co., Riste's place, Barker Gate, Nottingham) states that it is ready to place an immediate trial order for shooks sufficient to complete 1,000 cases, but is unable to do so. Lumber exporters in the United States who desire to do business of this character should communicate with the above firms, and also file their addresses with consuls at trade centers.

As illustrating curious trade conditions, Messrs. Robert Ellis & Co. recently applied to a lumber-importing concern at Liverpool for quotations on American shooks, and received the following reply:

Writer has just returned from Canada and the States. We could get the shooks you want from Canadian mills, but all the United States mills are full of work for this year. If you are inclined to enter into a contract for the supply of these goods for delivery after next spring, no doubt it could be arranged. Orders for earlier delivery could not be taken, as the mills shut down in the winter.

S. C. MCFARLAND,

NOTTINGHAM, *October 23, 1901.* *Consul.*

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MANCHESTER EXPORTS TO THE UNITED STATES.

Consul Grinnell sends from Manchester, October 17, 1901, tables of the exports of cotton yarn (in pounds) and of cotton velvets, cords, and fustians (in yards) from that district to the United States for the quarter ended September 30, 1901. The corresponding period of 1900 is also exhibited for comparison. The tables follow:

Exports of cotton yarn to the United States.

Month.	1901.	1900.
	Pounds.	*Pounds.*
July	173,941½	284,360¼
August	183,475½	257,220
September	174,320¼	201,819⅛
Total	531,737¼	743,399⅜

Exports of cotton velvets, cords, and fustians.

Description.	1901.	1900.
July.	*Yards.*	*Yards.*
Dyed	883,679	725,950
Undyed (gray)	800,448¾	722,320½
Total	1,684,127¾	1,448,270½
August.		
Dyed	804,003½	800,911¼
Undyed (gray)	712,905¾	826,590½
Total	1,516,909¼	1,627,501¾
September.		
Dyed	810,397¾	635,396¾
Undyed (gray)	659,753¾	574,704¾
Total	1,470,151½	1,210,101½
Grand total	4,671,188⅛	4,285,873¾

AMERICAN EXHIBITION IN ENGLAND.

Consul-General Osborne transmits from London, October 30, 1901, prospectus of an American exhibition to be held at the Crystal Palace, Sydenham, from May to September, 1902.

This exhibition, he says, is well backed, and has an influential American advisory committee.

The Crystal Palace is a very large building, and practically the

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whole of the interior space will be devoted to the exhibition. It should prove of benefit, commercially and socially, to both countries.

The prospectus reads:

The American exhibition, 1902, is designed to demonstrate the immense commercial development which has taken place in the United States during recent years, and will be the largest and most important exposition of American products, arts, industries, and inventions yet seen in the United Kingdom.

The increase of American exports for the past twenty years has been phenomenal, and the expansion in the character and variety of the trade is perhaps even more remarkable than the increase in its volume.

With a population of over 80,000,000 and a climate ranging from Arctic Alaska to the tropical south—with their vast natural resources, and their great industrial wealth and activity—the United States offer a wider scope than any other individual country for a great national exhibition.

The natural advantages of the Crystal Palace for the accommodation of great exhibitions are well known. The buildings cover about 16 acres, all perfectly lighted, heated, and ventilated, surrounded by the most beautiful ornamental grounds in Europe, extending over 200 acres, and including the most extensive series of sports grounds in England for cricket, polo, football, baseball, cycle and motor racing, tennis, swimming, and other athletic sports.

The regular programme of entertainments, music and sports, is—like the annual attendance of visitors—upon a greater scale than anywhere else in the United Kingdom.

The jubilee of the first great International Exhibition, 1851, held in the Crystal Palace, has been celebrated this year by a naval and military exhibition, opened on May 23 by Field-Marshal Earl Roberts, K. G., which has been attended by the largest number of visitors during recent years.

The year 1902 will be marked by an historical event—the Coronation of King Edward VII, in the month of June—which will draw to London the greatest number of visitors from the provinces and abroad ever before known.

In the popular rejoicings and festivities which will take place throughout the Empire, the Crystal Palace, as the greatest national center of entertainment, will take the lead. No more auspicious time and place, therefore, could have been selected for a great exhibition, and it is felt that the directors have exercised a wise discretion in arranging for one devoted exclusively to the United States. From the support already forthcoming, a complete success is assured.

During the period of the exhibition, a number of the best American entertainments and shows will be introduced, in addition to the regular programme of attractions at the Crystal Palace. It is intended also to engage one or more of the leading American bands.

The exhibition is certified by the Board of Trade under the provisions of the patents, designs, and trade-marks act, 1883.

In connection with the exhibition it is proposed to establish, under the direction of a committee of representative American and British firms, a commercial bureau, so that all necessary information may be supplied to exhibitors with regard to channels of trade and the placing of goods upon the British and continental markets.

For the convenience of exhibitors, arrangements will be made with a well-known firm for the supply of approved stands or cases for exhibits, either to order or on hire, at moderate rates; but exhibitors are at liberty to make their own arrangements in this respect.

Plans and particulars of space—the charges for which range from 4s. to 20s.

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(97 cents to $4.86) per square foot, according to position—will be forwarded on application to the Assistant Commissioner for Commercial Section, 20 Victoria street, London, S. W., or to the General Manager, Crystal Palace, S. E.

CLASSIFICATION OF EXHIBITS.

Class I.—Machinery and mechanical industry: (*a*) Mining, agricultural, printing, electrical, traction, haulage, etc.; (*b*) shipbuilding, locomotives, railway and tramway engineering and equipment; (*c*) automobiles, bicycles, typewriters, sewing machines, laundry, domestic and other labor-saving appliances, etc.; (*d*) hardware, tools, and cutlery.

Class II.—Natural and agricultural products, including cotton, timber, mineral ores, wool, tobacco, etc.

Class III.—Prepared food products, including canned and other goods, condiments, confectionery.

Class IV.—Pharmaceutical and kindred preparations, surgical appliances, drugs, perfumery, etc.

Class V.—Carriages, vehicles, harness, furniture, leather goods, stationery, etc.

Class VI.—Hygiene, lighting, heating, ventilating, and sanitary appliances.

Class VII.—Textiles, fabrics, clothing.

Class VIII.—Musical instruments, photographic and optical apparatus and material.

Class IX.—Education and science.

Class X.—Naval and military, ordnance, ammunition, small arms.

Class XI.—Arts, painting, sculpture, engraving, lithography, architecture, and decoration.

Class XII.—Woman's section.

The rules governing the exhibition, with form of application and plans of the Crystal Palace, have been filed for reference in the Bureau of Foreign Commerce.

EXPORTS OF MALAGA RAISINS TO THE UNITED STATES.

Although there is an unusually large raisin crop in the famous Malaga district this year (probably 1,300,000 boxes), it is not likely that exportation to the United States will be much in excess of that of recent years.

In view of the heavy crop, prices are low, and, but for our duty of 2 cents a pound, it is almost certain that Malaga would send from 500,000 to 750,000 boxes to the United States. As it is, she will probably not send more than from 75,000 to 90,000 boxes.

In this connection, it is almost startling to note how Malaga's raisin trade with the United States has declined. The following table tells the story:

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Raisins exported from Malaga to the United States.

Year.	Quantity.	Year.	Quantity.
	Boxes.		*Boxes.*
1876	1,350,000	1889	90,000
1877	1,000,000	1890	66,000
1878	1,200,000	1891	40,000
1879	1,360,000	1892	62,000
1880	1,100,000	1893	28,000
1881	1,000,000	1894	30,000
1882	960,000	1895	33,000
1883	855,000	1896	60,000
1884	669,000	1897	41,000
1885	600,000	1898	40,000
1886	450,000	1899*	150,000
1887	277,000	1900	51,500
1888	104,000		

*In 1899, the California raisin crop failed.

The remarkable falling off above shown is due, first, to the development of California as a raisin-growing State; second, to the United States tariff duty of 2 cents per pound.

So cheaply and abundantly are raisins produced here that Malaga exporters would undoubtedly be able to undersell the California growers in the United States but for the duty.

BENJ. H. RIDGELY,

MALAGA, *October 10, 1901.* *Consul.*

THE SICILIAN LEMON CROP.

Conditions and prospects of the lemon crop in this consular district are good, the quality of fruit is excellent, and size of crop normal—about 1,600,000 boxes; the only complaint is on account of the lateness of ripening, caused by the long drought, gathering being delayed much longer than usual.

As shipments have not commenced, no estimate of prices can be given. Unless they rule higher in New York than last year, the probability is that no shipments will be made to the United States from Catania, the value of lemons shipped since January 1 being only $825.09. The present freight per box to New York is 1s. 2d. (28.3 cents).

The total exportation of citrus fruits from Italy and provinces for the first eight months of 1901 was as follows:

	Quintals.*	Pounds.
Oranges	628,653	=138,592,840
Lemons	1,168,077	=257,514,255
Limes	10,770	= 2,374,354

* 1 quintal=220.46 pounds.

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This exportation of citrus fruit was to the following countries:

Country.	Quantity.	
	Quintals.	*Pounds.*
Austria-Hungary	422,274	93,094,526
Belgium	5,333	1,175,713
Denmark	8,436	1,859,800
France	21,490	4,737,685
Germany	151,957	33,500,440
England	401,627	88,542,688
Malta	11,926	2,629,206
Holland	50,409	11,113,168
Russia	193,940	42,756,012
Sweden and Norway	10,019	2,208,789
Turkey	20,436	4,505,320
North America	465,845	102,700,189
Australia	5,444	1,200,184
Other countries	38,364	8,457,727
Total	1,807,500	398,481,447

ALEXANDER HEINGARTNER,
CATANIA, *October 15, 1901.* *Consul.*

IMPORT TRADE OF GREECE.

A German trade journal gives a very interesting account of the import trade of Greece. According to this report, Great Britain stands at the head of the list of countries sending goods to Greece, her chief exports being yarns, textiles, and coal. Second and third in importance in the import trade come the grain-producing countries of Turkey and Russia. The fourth place is held by Austria-Hungary, which supplies chiefly articles for daily use—such as coffee, sugar, rice, dried vegetables, etc.; then come the following countries: Germany (which is gaining on Great Britain, and has a share in almost every article imported into Greece), France, Italy, Belgium, and finally the United States.

The chief manufactured articles imported by Greece, with the countries supplying same (ranked according to their share in the trade), are:

Iron beams and bar iron, Belgium, Germany, and Austria.
Band iron, Germany and Austria.
Gas pipe, Germany and United States.
Tin plate, Belgium.
Sheet iron, England and Germany.
Galvanized sheet iron, England.
Railway material, Germany.
Wire cable, Germany.

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Hardware, Germany, France, Great Britain, and United States.
Files, Austria.
Galvanized and enameled ware, Germany and Austria.
Sewing machines, United States, Great Britain, and Germany.
Machinery (printing presses, wine presses; book binders', weavers', stitching, and hardware machinery; dynamos and electric motors), Germany.
Wood-working machinery, France.
Gas motors, Great Britain and Germany.
Steam engines, Switzerland and Germany.
Agricultural machinery and pumps, United States and Germany.
Power belts, Germany.
Pine and fir (telegraph poles), Germany.
Bronze ware, Germany and Great Britain.
Telegraph wire, Germany, Great Britain, and Belgium.
Chemical and pharmaceutic products, Germany.
Surgical, optical, surveyors', and photographic apparatus, Germany and France.
Bandage material, Austria.
Wax and sealing wax, Germany.
Paraffin and stearin, Germany and Great Britain.
Caustic soda, carbonate of soda, and potash, Germany, France, and Great Britain.
Water glass, Germany and Great Britain.
Fuses for blasting, Germany and France.
Cloth, Germany, France, and Belgium.
Shoddy, Germany, Great Britain, and France.
Cottons for men's goods, Italy, Belgium, and Germany, the latter principally printed moleskins.
Cottons for women's goods, cheaper qualities, Great Britain and Austria; better qualities, Germany, Switzerland, France, and Italy.
Linen, Germany, Belgium, and Austria.
Flax, hemp, and jute bagging, Great Britain, Germany, and Italy.
Bed and table covers (woolen and mixed), Germany and Austria.
Silk textiles, France, Germany, Italy, and Switzerland.
Upholstery goods, Germany, Austria, and Italy.
Body linen, Austria.
Trimmings, Austria and Germany.
Catgut strings, Germany.
Earthenware, Great Britain and Germany.
Porcelain, Germany and France.
Bottles and glassware, Germany, Austria, and Great Britain.
Lamp chimneys, Germany and Austria.
Window glass, Belgium.
Imitation stones and pearls, Germany.
Leather, France, Germany, Russia, and United States.
Shoemakers' yarn, England and Germany.
Shoemakers' linen, Great Britain (Dundee).
Lamps, Germany and Austria.
Watches, Switzerland and United States.
Clocks, Germany.
Table cutlery, Germany.
Printing paper (finer grades), Germany and Austria.
Packing paper and cardboard, Austria.
Straw paper, Belgium, Austria, and Italy.

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Writing paper and envelopes (better grades), Germany and Austria.
Common printing paper (for newspapers), Denmark.
Writing utensils, Germany and Austria.
Brushes, Austria and Germany.
Jewelry, Germany (Pforzheim) and France.

It will be seen that our country participates to a very small extent in Greek trade, while the result of Germany's efforts is apparent. There is hardly an article in the long list in which Germany has not her share of the trade. American manufactures can surely compete with any others in price and quality, and our exports could be doubled if our manufacturers devoted the care to our export trade that Germans devote to theirs. We have made great progress in this line, but our efforts in foreign markets are still too spasmodic and unmethodical.

WALTER SCHUMANN,
Consul.

MAINZ, *September 26, 1901.*

HAIL CANNON IN SWITZERLAND.

Considerable interest is being manifested here in the action taken by the Swiss Government, looking toward the erection of bombarding stations in certain parts of the country for the prevention of the destructive hailstorms which at times have devastated entire districts.

The Government in the first instance appointed Colonel Stahel and Mr. Girsberger to proceed to Italy and Styria to study the question and see what results had been achieved in these countries, where bombarding stations have for some time been in operation. These gentlemen have made a long and detailed report to the Government, recommending the adoption of one of the systems in practice, and from the report the following has been extracted:

It is only within the last year that hail guns and protection against hail by cannonading the dangerous clouds have become a topic of general discussion. To-day, the question is one of the greatest and most intense interest for all who are in any way connected with agriculture and horticulture and for the governments which have to protect these most important branches of human industry, especially in those countries which are more than others exposed to hailstorms.

The classical land of hail shooting is Styria. The vine growers there suffered so frequently and disastrously from hailstorms that they were forced to devise all sorts of means of protection; wires were stretched over the vineyards, and, when danger was anticipated, these were covered with cloth, planks, etc.—wearisome work, indeed. Ordinary small mortar guns were occasionally fired against the clouds in order to dispel them. Burgomaster Stieger, of Windisch-Feistritz, in Styria, took up the matter in a thorough and successful way and is to-day acknowledged by all those interested in hail shooting to be the originator and master of shooting as a means of protection against hailstorms.

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From Styria, hail shooting spread over Hungary and northern Italy, where at the present time more than ten thousand shooting stations are established. It appears that warm, marshy countries with broad rivers show the greatest interest in the means of protection against hailstorms, which may lead to the conclusion that such countries are more than others subject to hail. This, again, confirms the experience that warm layers of air saturated with moisture, rising from damp, low countries, will turn into dangerous hail clouds when they meet a cold air current in the higher regions of atmosphere.

A well-regulated shooting station consists of a little house of about 4½ by 9 feet square, divided into two rooms, of which the smaller one contains the gun and the larger one serves as a loading room. The principal part of the gun is a vertical mortar 8 to 11 inches long, with a caliber of about 1½ inches. To the mortar is attached a conical funnel of a length of 7½ to 12 feet, the upper part of which projects from the top of the house. The supply of gunpowder ought to be kept well sealed in tins, divided into charges of 80 to 160 grams, and there should be a sufficient quantity for fifty shots for each gun.

The stations are distributed over the danger district, 1,200 to 1,800 feet apart. Thus, one station will protect about 62 acres. One gun more powerful than the others may serve as an alarm gun for a whole district, and ought to be in charge of a person who has some experience of the signs of an approaching hailstorm. Upon an alarm being given, all guns in the district should start firing, giving one shot each minute. Quicker firing is said to be less effective, as the shots would not have time to take full effect.

After firing a shot, a white ring will be seen rising from the funnel, gradually increasing in size to the diameter of 9 to 12 feet. Its force is sufficient to break wood sticks on its way, and if it hits at a distance of 300 feet or more a target made of coarse hurdlework, it cuts out a ring, leaving the center and the circumference unhurt. The effect of the air ring shot into the hail clouds is not sufficiently explained, but it disturbs their natural course of dangerous development. A direct proof that hail shooting properly practiced will under all circumstances prevent hail is of course impossible to furnish; but the fact that certain districts of Styria, which were before the use of hail guns devastated by hailstorms year by year, have not for the last five years, since the guns are in use, experienced any hail is a strong point in favor of the hail guns. The question is important enough to cause thorough experiments to be made, the more so as the expenses for the service of a system of hail guns will not amount to one-tenth of the insurance paid at the present time, even if the necessity of cannonading would arise every year. In order to meet with success, it is not only necessary to have good working and not too complicated guns, but also a rigid and well-organized service.

Upon this report, a commission has been named which will adopt regulations for the service; and to prevent desultory private action, it has been decided to act as quickly as possible. The regulations in preparation will propose the forming of societies in all the interested districts, and the guns will be distributed so as to determine by practical demonstration which system is the most effective.

HENRY H. MORGAN,
Consul.

AARAU, *October 16, 1901.*

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AMERICAN LOCOMOTIVES IN BAVARIA.

The Berlin Neuste Nachrichten, of October 29, contains a telegram from Munich concerning the results of the experience of the Royal Railway Administration with American locomotives, of which the following is a translation:

The general administration of the Bavarian State railways ordered and received from the Baldwin Locomotive Works, in Philadelphia, two express passenger locomotives, which have been in use nearly three-fourths of a year. The difference between these locomotives—which are easily recognized by their unearthly whistle—and the German engines consists principally in the fact that they have on each side three cylinders, placed vertically one above the other, and cast in one piece with the valve chests and saddle. In other respects, the American machines are characterized throughout by the greatest simplicity in all parts, and their management differs very slightly from that of any other locomotive.

Since they were placed in service, the methods in which the steam power acts and the general efficiency of the locomotives have been very carefully observed. The result of all these tests and observations has been entirely satisfactory. The general direction has now, as is announced by the Munich Allgemeine Zeitung, secured the patent of the American Vanclaim, and authorized the construction of a locomotive according to this system, with certain modifications, by each of the two firms Krauss & Co., of Munich, and J. A. Maffei, of Hirschau. These machines are now in process of construction, and it will depend upon their efficiency and durability whether the system shall be further utilized. The cost of the Bavarian locomotives will be about 20,000 marks ($5,760), greater than that of the American.

FRANK H. MASON,
Consul-General.

BERLIN, *October 31, 1901.*

AMERICAN ANTHRACITE FOR GERMANY.

Consul Kehl reports from Stettin, October 11, 1901, that the first cargo of American anthracite (amounting to 3,600 tons) to enter that port from the United States is expected to arrive from Philadelphia within the next few days, consigned to James Stevensen Aktien Gesellschaft.* The price c. i. f. Stettin is about 60 cents per ton cheaper than Welsh cannel coal.

Referring to the same subject, Consul Warner, of Leipzig, under date of October 10, 1901, says that the fact that the United States is exporting anthracite to Germany makes a statement of German trade in this line, during the past three years, of interest.

*See ADVANCE SHEETS No. 1168 (October 22, 1901).

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The imports of anthracite in 1898 amounted to 5,820,000 long tons; in 1899, 6,220,000 long tons; in 1900, 7,344,000 long tons.

The exports amounted to 13,989,000 long tons in 1898, to 13,943,000 long tons in 1899, and to 15,276,000 long tons in 1900.

The imports have been received mainly from England; and the bulk of the exports has gone to Austria-Hungary and the Netherlands.

GERMAN INDUSTRIAL CONDITIONS.

Consul Monaghan sends from Chemnitz, September 28, 1901, extracts from an article in the Berliner Tageblatt, reviewing prevailing conditions in the various branches of industry in Germany, as follows:

The whole iron industry is in a state of depression. Certain branches are comparatively occupied, but the business can not be compared with that of former years. Factories for the production of railroad supplies seem to be the busiest, but even they have not as many orders as last year. The smaller iron industries are suffering from a falling off in exports. The same is true of machine factories. They are running on short time, and great numbers of workmen have been discharged.

Even the textile industries are no exception. Wherever mills are running, it is generally at the cost of the price of the wares. This lowering of the price of manufactures is overcome by decreasing the wages of the employees, who are working for anything rather than remain idle. The philanthropist puts the serious question to himself, What conditions will we meet when, through an unwise tariff policy, labor becomes less in demand and at the same time the most necessary articles of food become dearer?

Manufacturers in the cotton-spinning industry have lately been compelled to limit their production more and more. The flax spinners were also forced to work on short time, owing to the high price of flax and the low price of the ready article. Trade is not good in the woolen-spinning industry, but the worsted spinners are tolerably busy. In other weaving branches, there is a scarcity of orders.

The lace and embroidery manufacturers in the Voigtland and Rheinland are still occupied, but business is very unsatisfactory.

Conditions are the same in the electrical industry; many workmen have been discharged.

In agricultural circles, people are not satisfied with the grain harvest. The scarcity of workmen was not felt so much this year as last, owing to the number from other industries seeking employment on farms.

TRAFFIC OF THE KAISER WILHELM CANAL.

Under date of October 18, 1901, Mr. Jackson, secretary of embassy at Berlin, transmits copies of a pamphlet on The Development of Traffic in the Kaiser Wilhelm Canal. Mr. Jackson notes that the canal dues paid by the United States steamship *Enterprise* amounted to 400 marks ($95.20) and those of the United States steamship

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Buffalo to 900 marks ($214.20), which, he adds, would apparently indicate that it is less expensive for our ships to go through the Kaiser Wilhem Canal than to round the Danish Peninsula, taking into consideration the saving in time and coal. The total traffic of the canal in 1900, exclusive of ships of the German navy, was 29,571 ships, with a net registered tonnage of 4,292,258 tons. The through traffic for the five years January 1, 1896, to December 31, '1900, has more than doubled (222.22 per cent) as regards number of vessels, and almost trebled (269.99 per cent) as regards tonnage. The canal has given repeated proofs of its capabilities in regard to the number of ships passing in one day. For example, on June 15, 1900, 118 vessels, with 20,649 net registered tonnage, passed the canal, and it has likewise stood the test as regards its navigability for very large vessels, such as the German cruiser *Fürst Bismarck* and the Japanese cruiser *Yakumo;* in fact, the average size of the vessels passing the canal has risen from year to year. It has been possible to maintain the traffic without any interruption from ice, even throughout the severe winter of 1896–97, when the sound and the belt were blocked by ice.

ELECTRIC RAILWAYS IN SAXONY.

The traffic on the electric street railways of Saxony has increased about 400 per cent since 1896—taking into account the number of persons carried, the number of cars, and the capacity of the motors—and 150 per cent so far as the length of the railways is concerned. The length amounts to 356.33 kilometers (221.4 miles), divided as follows:

In—	Length.	
	Kilometers.	*Miles.*
Dresden	118.09	73.3
Leipzig	149.31	92.7
Chemnitz	38.64	24
Zwickau	15.23	9.4
Plauen in Voigtland	4.86	3
Schandau	8.30	5.1
Meissen	4.66	2.8
Loessnitz	7.22	4.5
Dresden Suburban	3.51	2.2
Leipzig External	5.92	3.6

The number of motor cars at the disposal of all the railroads amounted at the end of 1900 to 844 without and 184 with accumulators, and 403 attachable cars.

There were 147,645,690 persons carried in 1900, and the number

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of accidents amounted to 338. There were 23 collisions with railroad cars, 74 with ordinary wagons, and 139 with pedestrians, horseback riders, and bicycles.

In Chemnitz, especially, the railways are well patronized by the working classes, as it enables them to live in the suburbs. The usual fare is but 10 pfennigs (2.38 cents). The line in Chemnitz paid 52 marks ($12.37) last year for every 100 marks ($23.80) invested.

J. F. MONAGHAN,
Consul.

CHEMNITZ, *October 8, 1901.*

GEOGRAPHICAL EXPOSITION AT ANTWERP.

Vice-Consul-General Haine sends from Antwerp, October 26, 1901, translation of a circular letter from the Royal Geographical Society, announcing the organization of an exposition to be called "Exposition Cartographique, Ethnographique et Maritime," to be held at Antwerp in 1902 in commemoration of the twenty-fifth anniversary of the society's foundation. The circular reads:

We have the honor to announce that in order to worthily celebrate the twenty-fifth anniversary of the foundation of the Royal Geographical Society of Antwerp, it has been decided to organize an exposition to be called "Exposition Cartographique, Ethnographique et Maritime."

His Majesty the King has given the project his approbation, and the exposition will be held in the building of the old museum at Antwerp, rue Venus, to be opened in the month of May next. The object of the committee is to popularize geographical sciences, to make those countries recently opened to commercial activity better known, and to contribute to the development of the mercantile marine and of maritime enterprises. There will be a section devoted to ancient and modern maps and globes, surveying instruments, etc., which will comprise also meteorological and ocean-sounding apparatus. The committee proposes to assemble important ethnographical collections, in view of the interest taken in them by the public in regard to transoceanic enterprises. The participation of the Kongo Free State will largely contribute to the success of this section. Besides the colonial section, there will be a department devoted to everything relating to the progress of navigation. Models of ships and of great maritime works, improvements in the art of navigation, and trophies of voyages of exploration will be exhibited. It is desired to give to the exhibition an international character, as it is wished to signalize the great examples of the colonial and maritime powers and the progress realized by them.

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ACETYLENE GAS IN GERMANY AND SWEDEN.

In compliance with a request from the Treasury Department, an instruction was sent, under date of June 4, 1901, to certain consular officers in Germany and Sweden to report on the uses of acetylene gas. The answers received* follow.

GERMANY.

Consul Kehl writes as follows from Stettin:

Acetylene gas is emerging from a crisis which almost retired it as an illuminant. About eight years ago, when this gas was in its infancy, numerous devices for its manufacture sprang into existence; but through ignorance and improper constructions, many fatalities resulted. In December, 1896, an awful explosion of acetylene gas occurred in Berlin. The press denounced its use; the police authorities throughout Germany placed almost prohibitive restrictions upon acetylene generators; the preparing of liquid acetylene was strictly forbidden; insurance companies protected their interests by high rates and special requirements in addition to those prescribed by the police. As a result, only safe and meritorious machinery is now constructed.

The advantages claimed for acetylene gas are many. It is the nearest approach to sunlight, with a power said to be fifteen to twenty times as great as ordinary coal gas, and with six times less heat when used for illuminating purposes.

FACTORIES.

For the manufacture of gas-producing contrivances and the various acetylene-burning devices, Germany has about two hundred and thirty-five factories, the most important being the "Allgemeine Carbid und Acetylen Gesellschaft, Berlin." This concern manufactures everything in the line of acetylene-producing machinery and the different gas-consuming articles.

MARINE LIGHTS OF ACETYLENE GAS.

The imperial testing station for marine lights, situated close to Stettin, has officially tested the light-house burner and reflector manufactured by the firm above named. The chief of the station, in a personal interview, expresses himself as follows:

*The publication of the reports has been deferred, owing to the delay in receiving replies from some posts.

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For light-houses out of reach of electricity, and easily accessible in winter or summer, acetylene would render good service, although it can in no way be compared with electricity in reliability, on account of the many details which must be looked after when burning this gas. I prefer electricity. Most of the French coast lights are electrical, while our lights are all petroleum.

At the Altenbruch light-house, on the Elbe, there have been some experiments with acetylene, giving the following results: By a consumption of 102 liters per hour, 302 candlepower was produced, and by 175 liters per hour, 435 candlepower.

An objection to acetylene for "long-range" light-houses, as advanced by an experienced sea captain, is that in a fog or thick weather it "walls" too easily. A petroleum light will penetrate a fog to a greater distance than any other illuminant. For clear weather, acetylene probably gives the best results.

In this district (the Oder River down to Ziegenort) there are fifteen navigators' lights, five of which are burning acetylene; one (on an artificial island in the Big Bay) is to be replaced by electricity, due to the difficulty of approach during the period of ice.

Mariners have made considerable complaint about the weakness of the Arcona light (north point of Rügen Island), and it is at this station that the Allgemeine Carbid und Acetylen Gesellschaft expects to erect its first permanent coast light.

ACETYLENE LIGHT FOR MILITARY PURPOSES.

The acetylograph, manufactured by this same concern, is a portable search or signal light, and can be used by day for signaling purposes. This apparatus, carrying its own generator, is mounted on three legs, similar to those of a camera.

The hand search light for the hospital or medical corps has a small generator attached to a belt and connected with a reflector by a hose about 3 feet long.

COMMERCIAL AND DOMESTIC USAGES.

Successful experiments have been made with acetylene as an aid for photographic light, when making time exposures.

Schöusee, a small village in West Prussia, is illuminated with acetylene.

Radenz Castle, at Koschmin, is lighted throughout with this gas. Many other instances can be quoted where acetylene is used for illuminating. In general, it is not believed that it will ever become popular or have great commercial value. The constant care required to prevent accident is an impediment.

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SWEDEN.

The following has been received from Consul-General Muir, of Stockholm:

Acetylene gas has been used in Sweden for about ten years, although its practical use was not developed until after the exhibition at Stockholm in 1897.

Experiments have been made with the gas in light-houses, beacons, etc., but the results have not yet been reported. It has come into practical employment in several railroad stations, as well as in manufactories, churches, and private dwellings.

The largest firms manufacturing apparatus for the production of acetylene gas are the following: Acytelene Aktiebolaget "Koh T. Noor;" Sarverket "Suplex Ideal;" Aktiebolaget Acetylene-gasverk; Hera Prometheus A. G.; Svensson & Co., Acetylene-affär; Nordiska Acetylene Aktiebolaget; "Prinus" Acetylene Gasverk; Svenska Carbid och Acetylene A. B.—all situated in Stockholm.

The manufacturers of carbide used for the production of acetylene gas are: Alby Calcium Carbid fabrik, Alby; Örebro Elektriska Akt. Bol. Örebro; Trollhättans Elektriska kraftaktiebolag, Trollhättan; Stockholms Superfosfat Aktiebolag, Stockholm.

The price of carbide is 200 crowns ($53.60) per ton f. o. b. Stockholm or Gothenburg.

The prices for gas works vary widely, but catalogues may be obtained from this office at any time.

Consul Bergh reports from Gothenburg:

I am informed that in this consular district acetylene gas has not yet come into use in light-houses, for buoys, or for beacons. It has been decided, however, to try to use it in the small light-house or beacon at the entrance to the city of Marstrand, on the west coast, a few miles from Gothenburg.

Acetylene gas is used on several Swedish steamers for the top-light, the side lanterns, and for search lights. It has recently come into use at several railroad stations, and favorable reports have been made. The gas is furthermore used in carriage and bicycle lamps and hand lanterns in factories, and for small cooking and laundry stoves. It is considered that acetylene would also be adapted for lighting large country estates, churches, hotels, etc.

There are in this city two concerns which manufacture the apparatus, but only a few have yet been exported. I have also seen here appliances of foreign manufacture.

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Calcium carbide—used for the production of acetylene gas—is manufactured in Sweden. The largest factory in this part of the country is probably the one at Trollhättan, some 50 miles from this city. I am told that calcium carbide is exported chiefly to Hamburg, but also to Japan and adjoining countries. At present, the price of calcium carbide is 20 kronor per 100 kilograms (about $2.43 per 100 pounds) at the factory.

According to calculations made by the manufacturers of acetylene works, the use of the gas is economical, especially in this country, where petroleum and coal are considerably more expensive than in the United States. It is calculated that a factory using fifty lamps at 16 normal candlepower each, burning seven hundred and twenty hours per year, would have the following yearly expenses for lighting:

Using petroleum, refined, at present price	$149.97
Using coal gas in common burners	291.85
Using electric incandescent lamps	236.88
Using acetylene gas	125.53

These calculations are based on the average price of gas and electricity and counting calcium carbide at 27 kronor per 100 kilograms.

If certain regulations are complied with and the gas works are of a type approved by the insurance companies, the latter do not make any discriminations against persons or business firms who use acetylene.

NEW ACETYLENE GENERATOR IN SWEDEN.

Mr. Erik Cornelius, chemist at the Carbide Factory at Trollhättan, Sweden, has invented a new acetylene-gas generator, called the "Trollhättan."

This generator is said to be much simpler in construction than former ones, and occupies little space. The falling of the carbide into the water is automatically regulated by a rubber ball, which, as soon as it is filled with gas, closes the valve between the carbide and the water. When the volume of gas decreases, the hollow rubber ball contracts and the feed valve again permits the carbide to drop. The gas is stored partly in the rubber ball and partly in the space between the funnel-shaped carbide magazine and the water. If much gas is generated, the water is pressed through valves into the water jacket in the sides of the apparatus, thus furnishing more room for the gas. A separate gas tank is therefore not needed. Should too much gas be produced, water and gas escape through a safety valve. Common carbide is used; no cartridges. The gas is dried by being allowed to pass through the carbide magazine, where the carbide absorbs the moisture. As there is no gas tank, and the

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quantity of gas stored thus is insignificant, it is considered that the fire-insurance companies will, without raising the insurance premiums, approve of the apparatus, even when it is placed in dwelling houses.

ROBERT S. S. BERGH,
GOTHENBURG, *October 22, 1901.* *Consul.*

NEW STEAMERS IN THE NETHERLANDS TRADE.

The Holland-America Steamship Company has added a new twin-screw passenger steamer to its fleet plying between Rotterdam and New York. It has been named the *Ryndam*, is of 12,500 tons burden, 550 feet long, 62 feet wide, and 42 feet from keel to deck.

The *Ryndam* is fitted out with electric light and all modern improvements, and will accommodate 287 first-cabin, 210 second-cabin, and 1,000 steerage passengers.

The Holland-America Line has now building at Belfast, Ireland, another new steamer of the same size and capacity as the *Ryndam*, which is to be put in commission next spring, and to be named the *Noorddam*. For each new steamer built, one of the older and smaller steamers is disposed of.

In addition to its passenger service to New York, the company has for some time been maintaining a regular line of freight steamers between Rotterdam and Newport News, Va., with chartered vessels. These latter are now being replaced by steamers built expressly for this service, to be owned by the Holland-America Line, and two of these new freight steamers have already been placed in commission. They are of 8,100 tons burden each.

The freight traffic between the United States and Europe is said to be very good, though not so brisk as last year.

S. LISTOE,
ROTTERDAM, *October 21, 1901.* *Consul.*

TOBACCO CULTURE IN HAITI.

Under date of September 25, 1901, Minister Powell, of Port au Prince, reports on the progress of tobacco culture and manufacture of cigars in Haiti as follows:

Haiti, situated in nearly the same latitude as Cuba, will soon rival it in its production of fine grades of tobacco. It has a more equable climate, free from cyclones and hurricanes, and a far more fertile soil, which has not been weakened by long-continued cultivation; all that is needed is skilled cultivation and proper curing. It may be said that tobacco culture has now passed the experimental

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stage and will within a few years become an important source of revenue to this Republic. A new species has been produced by cross fertilization, called the "Diqueney"—after the place where it is grown—said to surpass in many respects the best Cuban grades. This species grows from 5 to 7 feet high, and bears within a few inches from the ground a large, smooth leaf, 20 inches long by 15 inches wide, free from defects. The seed is sown in the latter part of July in well-irrigated beds, which are protected from the fierce rays of the sun by light, raised covers. In September, the plants are transplanted into carefully prepared beds of rich, dark, loamy soil, which are also kept plentifully supplied with water. Cutting takes place about three months after planting. Between the latter part of November and the middle of March, three cuttings are made; a fourth can be made, but the quality of the tobacco is not so good. The process of curing, upon which the value of tobacco depends, is as follows: The tobacco, after being dried in the drying house, is subjected to a sweating process of from three to four days, dependent upon the weather; the leaves are then stripped from the stems and assorted, after which they are left for one or two months. The tobacco in bales is then placed in a press, holding from 1,500 to 2,000 pounds, for fermentation, where it remains eight or more days, until it reaches a temperature of 136° F.; it is then put in a second press, where it remains fifteen days, until it reaches the same temperature. This operation is repeated six times before it is placed in the last press, where, after being moistened with water, it remains a month. The tobacco is then arranged in large bales and left for two months, when it is made into bales weighing 150 pounds and stored in a dark room for six months.

One factory here, under American-German management, employs a force of skilled Cuban cigar makers, who are turning out daily many thousands of fine cigars. The output of this plant amounts to $150,000 per month. Fifty per cent of this is consumed at home, 25 per cent goes to Germany, and the remainder to France, England, and Mexico. Owing to the high tariff, no attempt has as yet been made to introduce the cigars into the United States.

INCREASE OF DUTIES IN COLOMBIA.

Consul Malmros sends from Colon, October 22, 1901, copy of a recent decree increasing the duties on articles imported into Colombia, which reads:

From the publication of this decree, the commercial tax at present being collected is increased to 20 per cent. The increase of the commercial tax will not include foreign merchandise destined for this Department for sale or consumption

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which had left the port of departure before the date of the publication of this decree. The verification of this fact must be attested by documents before the civil and military chief. Payment of the tax referred to must be made in cash at the respective treasuries on presentation of the liquidation. No merchandise can be introduced into this Department without previous payment of the legal duties. The prefects of the respective provinces of the Department are intrusted with the promulgation of the present decree, which is dated Panama, October 9, 1901.

The duty on liquors per each liter (1.05 quarts) is fixed by a decree of October 11, 1901, as follows:

Description.	Duty.	
Spirituous liquors, common, and their components (seco, aniseed, refinado, rosoli, narangito, etc.), from any other Department or foreign, density up to 21°	*Pesos.** 2.00	$0.87
Distilled spirits, as brandy, gin, whisky, etc., up to 21°	2.00	.87
Alcohol, up to 42°	1.50	.65
Liquor, from 22° to 42°	3.00	1.31
Condensed liquor, serving for the preparation of taxed drinks	20.00	8.72
Mineral waters not gaseous, vichy, Oresa, Chantilly, and the like, sold as medicinal waters	.10	.043
Soda water, lemonade, or any other gaseous drink	.10	.043
White wine, colored, or Bordeaux in pipes, barrels, demijohns, bottles, etc	.10	.043
Beer, white or black gin, or other kinds	.20	.087
Fermented liquors not specially taxed	.10	.043
Sirups	.30	.13
Wines known as sweet wines, seco, Malaga, sherry, port in pipes, barrels, demijohns, and bottles	.20	.087
Champagne and other sparkling wines	1.00	.436
Bitters and aperitives of any name or quality	.30	.13
Essences of other kinds for each kilogram (2.2 pounds), gross weight, for other kinds of industries, as vanilla, rose, etc	5.00	2.18

*The Colombian peso was valued by the United States Mint at 43.6 cents, July 1, 1901.

RUBBER CULTURE IN VENEZUELA.

Consul Goldschmidt transmits from La Guayra, November 1, 1901, an article published in the Venezuelan Herald, which, the consul notes, is of unusual interest to all who wish to study the cultivation and exploiting of rubber, on account of its details and apparent knowledge of a subject generally very little known. The article reads:

The Caoutchouc of the Upper Orinoco.

[By Dr. Lucien Morisse.]

In the course of the explorations which I made in the years 1888 and 1889 on the Orinoco and in the district of the Rio Negro, I was obliged to execute much medical and botanical work in order to carry out the mission with which I had been honored by the Minister of Public Instruction and Fine Arts. These circumstances led me to make a profound and complete study of one of the botanical essences found most extensively in those regions, which are of the richest and most interesting for science and industry. I refer to caoutchouc.

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That of the Orinoco, known as Ciudad Bolivar caoutchouc, on account of that city being the principal market for the product, is exactly the same as that found on the Amazon, and known as Para caoutchouc; it is extracted from the same tree and the crop is reaped in an analogous manner.

The various classes of caoutchouc found in these regions are of the species *Heveas*, which belong to the great family of the *Euphortiaceas;* the caoutchouc of the Orinoco is therefore the true *Syringa brasilensis*. Nevertheless, there are various kinds of *Heveas*, of which I have found four varieties on the Orinoco, and I have noted that all the trees grow near together and give a like gum.

The product of the caoutchouc is everywhere the same—the Para—except, perhaps, that of Guayana, which, when the sheet is fresh, is of a bluish white; when, however, it is dry, it is impossible to distinguish it from the pure Para.

These species are very different from that which comes from Africa, especially Madagascar, which is generally the product of *Ficus elasticus* (a fig and not a *Hevea*), and are superior to them, Para caoutchouc being most highly esteemed and the dearest, on account of its several qualities.

Ficus elasticus is found on the Amazon and the Orinoco, and produces a milk; but naturally in the regions where the *Heveas* are so numerous and productive, that species is not exploited. It is curious to remark that while the *Hevea* is called *Syringa* in Brazil, it is called caoutchouc in Venezuela, where the *Syringa* is called the *Ficus*. All these various caoutchoucs, known as Para, generally reach the markets of Europe in the form of large loaves of first, second, and third quality, and the residue in the shape of balls.

I shall not dwell on the distinctive characteristics of the *Heveas*, which are generally well described in all botanical treatises; but shall limit myself to making a few observations on its physiology and other peculiarities which enable the Indians to recognize it at a glance.

The sap of the *Hevea* is a milk found in the bark of the tree, which ascends and descends naturally like all sap, according to the season of the year, and advantage is taken of this law to gather it by means of incisions made in the trunk, the product from which is more abundant as the incisions approach the dermis. The *Hevea*, when cut or tapped, ratoons from the foot, and these ratoons at the end of five years yield a product equal to that of the original tree.

APPEARANCE OF THE HEVEA.

This tree grows rapidly, upright and smooth, to the height of 30 or 45 feet, and even more. The branches spread out and lift themselves up on every side, causing the top to have a spheroidal shape. The leaves are trilobular, arranged one in the middle of the stem and two at the sides. The *Hevea* is the only tree which I have seen in these regions which has the peculiarity of terminating in a trefoil. Owing to this, the Indians never make a mistake, and recognize the *Hevea* among a thousand trees without pricking it.

The Venezuelan Government forbids the natives to fell these trees; but this prohibition is altogether unnecessary, as it relates to an immense forest, measuring upward of 30,000,000 hectares (74,000,000 acres), where caoutchouc exists in abundance, and which it would require millions and millions of hands to exploit, whereas it only contains three or four thousand Indians, not more than the tenth part of whom are engaged in the work. Fifty thousand immigrants might well be introduced for the purpose of cutting the largest number of trees possible without the least fear of destroying the forests, and the work carried on in this fashion would, in my opinion, be more efficacious and productive.

The Colombian Government, on the contrary, permits the trees in its territory to be felled, and this is done to a great extent on the Guariare and on the Cafio San Martin.

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In Venezuela, the Indians are restricted to pricking the tree, and they work and prepare the gum in the following manner:

The Indians make a track or pathway with their cutlass, which serves them to cut away the branches and reeds, and, in a word, to open up the forest. For convenience in moving from one location to another, the Indians travel about in canoes, and for that reason they have no cause to penetrate into the forests, and much less to make perpendicular tracks to go to the river; but having established themselves on the margin, they work in tracks parallel to the river, which enables them to reach by water any part of the track on which they may be working. This practice should be forbidden, if it is desired to exploit in an orderly and a complete manner. The tracks should all start from one point and go off into the forest in every direction like a fan, in order to obtain an exact knowledge of the forest.

PREPARATION OF THE HEVEAS.

As soon as the trees have been recognized and selected, the Indian scrapes them lightly with his knife in order to free them of the moss and other roughnesses and inequalities of the epidermis, so that the milk may trickle over a surface as smooth and clear as possible.

It is at this stage that the product is adulterated. Among the milk-yielding trees, which are so numerous in these forests, there are a great variety which produce gum. Up to to-day, I have recognized six species—the pindare, etc.—which, for the most part, are nothing but balata; these are gums which contain from 30 to 50 per cent resin, which renders them unfit for the industry. I have discovered a very simple, almost mechanical, process for isolating these resins in the fresh milk, and have obtained almost, if not quite, pure gutta-percha. It is superfluous to add that the only method of utilizing them known to the Indians is to adulterate the true caoutchouc therewith.

While the *Hevea* should be pricked and prepared carefully, so that the milk should run slowly, at the rate of 100 to 150 grams maximum per tree, the contrary happens with the milk of the pindare; for example, the juice is contained to a greater extent in this tree, and pours forth in great abundance if only one incision has been made, thus yielding from 250 to 300 grams in a quarter of an hour. This product is coagulated by means of smoke, just as the caoutchouc. The Indians therefore mix the milk of the two varieties in the following manner: They place them in different vessels near the oven and coagulate them in alternate layers in the trough.

If the sheets contain only pindare, they will be known at first sight by their hardness, their inclination to soften, and want of elasticity, which is proved by their retaining the mark left by pressing the finger on them; while the adulterated article, when it has been covered over with a cap of pure caoutchouc, has the aspect and color of the genuine article.

MODE OF DETECTING THE FRAUD.

If the sheet of adulterated gum is thrown on the ground, it does not rebound like a ball of pure caoutchouc, but on falling produces a dead sound and remains immovable as a log of wood. Further, if the sheet is cut through, the layers of the first species differ from those of the second in being denser and harder and in retaining the impression of the finger on being compressed.

NECESSITY OF SMOKING THE GUM.

The system of applying smoke to the milk, or something to produce the same effect, is indispensable. In however cleanly a way caoutchouc may be worked up it would be impossible to obtain perfect cleanliness, or to prevent the formation of little air globules, which would nullify the heat received by the sheet while it

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was being revolved in the hands of the workman over the oven, this heat being at the same time the beginning of the process of coagulation. Nevertheless, it unfortunately happens that some globules remain inclosed, which cause the paste to rise up almost imperceptibly and bring about decomposition by fomenting. Caoutchouc which has not been smoked is less valuable—as, for example, that from Madagascar, which is white when brought to market; perhaps if it were smoked it would be as valuable as that of Para. In Colombia, caoutchouc is also the product of the *Hevea*, but it is coagulated by the heat of the sun and is worth one-third or one-fourth as much.

TOPOGRAPHY.

On the Upper Orinoco, the caoutchouc trees begin to be found in considerable numbers only below the Falls of Maipure; on the affluents of that river, to the west of the Meta, Meseta, Tomo, Chuparo, Vicheda, the Atabapo, and to the right of the Catanopo, no appreciable number is found. The Venezuelan Guayana or Black River contains a number of species as far as Maroa; from that point they gradually become rarer, but they again abound below San Carlos, and from there on they are found at varying distances all along the Rio Negro up to its confluence with the Amazon.

ABUNDANCE OF HEVEA IN THE FORESTS.

The *Heveas* are disseminated through the forests at varying intervals, which on the Orinoco averages 25 meters (82 feet), more or less. On the Casiquiare trees are to be found at every 10 or 12 meters, and on its affluents, the Pacimone and the Siapa, they are so abundant that they nearly touch each other. On the Rio Negro, from the mouth of the Casiquiare to the Cocui, they are found at a distance of 15 meters, more or less; in Marivitana, a little farther apart, and they almost disappear toward Taparucuara, to reappear again a little lower down at San Gabriel, on the Amazon; from Mancos to Para, they are not more clustered than at Pacimone and Siapa.

RICHNESS OF THE HEVEA.

On the Orinoco, each tree produces 40 to 50 grams of milk; on the Rio Negro, from 80 to 100; on the Casiquiare, from 125 to 150. The yield in gum is in proportion to the density of the trees in the forests. It would further appear that the ascent and descent of the sap does not take place at the same time in all the trees of the same forest.

There are many which have a splendid appearance and yet remain unproductive for years, or the yield from which is so small and of such bad quality that it can not reach the reed conductor employed by the Indians.

Certain small and apparently insignificant trees, with delicate branches, yield abundantly after having remained unproductive for years; others which ought to have produced long since, covered with cicatrices and scars produced by former milkings, give no result, as is also the case with some which have magnificent foliage.

The causes of these phenomena are incomprehensible; and it would require prolonged observation and study in order to arrive at a perfect knowledge of the pathology and physiology of the *Hevea*. What is certain is that the sap is very capricious, and it is very difficult to say to what law it is subject.

THE HATCHET OF THE INDIANS.

The Indians make an incision into the tree with a hatchet not larger than the thumb, an end of which is affixed to a wooden handle a foot long; the blade is 1½ centimeters wide. This instrument is applied obliquely to the bark of the

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tree and struck on the back with a piece of wood, thus making it penetrate into the bark and produce the incision. The Indians generally make four oblique incisions on a vertical line on the same tree; sometimes more and sometimes less, and at various heights, but so that the milk from one line of cuts should pass over the lower incision. This proceeding is very useful; for, if the first drops which issue stick to the tree and are lost, these cuts serve to conduct the later drops which course with greater rapidity to the reed and afterwards to the deposit.

RESULTS OF EXPERIMENTS IN THE WORK.

Let us transport ourselves to the territory of the Casiquiare and take it for granted that every tree produces 100 grams of milk, not basing our calculation on the labor of the Indians, because their indolence and laziness render it impossible to base any calculations on the product obtained, but on my own work, as a European day laborer. During fifteen days, I pricked 114 trees per hour, and as I employed eight hours daily, I prepared 912 trees daily, during which time the enormous quantity of 80 kilograms (176 pounds) of milk coagulated.

The sheet of gum, by drying, loses 35 per cent of its original weight; by making cernamby (the preparation which is obtained from the residues of the principal substance), and working eight hours, as above said, I have daily produced 50 kilograms (110 pounds) of fine and dry caoutchouc. My caoutchouc sold, at the period of which I am writing, at 7 francs per kilogram ($1.35 per 2.2046 pounds) and gave a net clearance daily of 750 francs ($144.75). Owing to the Brazilian revolution, Para caoutchouc is at present worth 10 francs ($1.93) per kilogram, and will reach 14 to 15 francs ($2.70 to $2.89). At the present price, I would have gained 500 francs ($96.50) daily.

These figures appear exaggerated, and I should not have ventured to have set them out here if I had not done the work so scrupulously.

A man, an emigrant, who wishes to work can, by laboring six hours a day, view 1,000 trees and prick 500 daily, at the rate of 250 in the morning and a like number in the afternoon, and at the same time prepare 250 grams of caoutchouc. Before beginning the work, he must spend eight hours in the forest to install himself, recognize the trees, and mark out his picas, or tracks. Five minutes are sufficient to fix the reed and clay to a tree, and as (on the Casiquiare) they are at a distance of 15 meters apart, the workmen in a day will have covered 7 to 8 kilometers (4.3 to 4.9 miles).

NEW MEXICAN RAILWAY.

It is authoritatively stated that a concession has been granted by the Government of Mexico to an American syndicate to build a railroad from Monterey to Matamoros, which is situated in the State of Tamaulipas, near the mouth of the Rio Grande. The concession carries a governmental subvention of $8,000 a kilometer (0.62137 mile), and there is a strong probability that the State of Tamaulipas will add $2,000 a kilometer to this amount. The rich resources of northern Tamaulipas have remained undeveloped up to the present, on account of inadequate transportation facilities. Almost anything suited to a subtropical climate will grow in this section, especially corn, cotton, fruits, vegetables, sugar cane, etc., and it has recently been demonstrated that rice can be successfully cultivated near the

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Rio Grande. The extent of land lying along the rivers, and through which the proposed railroad will pass, which is susceptible of successful irrigation is unlimited. Mexico, and especially the State of Tamaulipas, offers inducements to prospective investors and capitalists, and the policy of both the national and State governments is to judiciously protect whatever industries may be established.

P. MERRILL GRIFFITH,
Consul.

MATAMOROS, *October 9, 1901.*

NEW RAILWAY AND CANAL IN MEXICO.

Consul Canada, of Veracruz, October 28, 1901, sends newspaper clippings, one referring to a concession granted by the Mexican Government for the building of a railway from San Geronimo (a station on the Tehuantepec Railroad, near the town of Tehuantepec) to the border of the Republic of Guatemala, with a branch road to the capital of the State of Chiapas from the port of Tonala, or its immediate neighborhood, and the other in reference to the building of a canal between Tampico and Tuxpan on the Gulf coast. The clippings read, in substance:

NEW RAILWAY LINE.—IMPORTANT CHARTER TO THE PAN-AMERICAN COMPANY.

The following translation of some of the chief clauses of the concession will be found of interest:

The Pan-American Railway Company is empowered to construct and exploit for a period of ninety-nine years a railway which, starting from San Geronimo, which is a station on the National Tehuantepec Railway, and passing through Tonala, shall terminate at such point on the Guatemala border as the Department of Communications and Public Works shall consider most suitable.

The company is also empowered to construct a branch, which, starting from Tonala or some other point in its immediate neighborhood, shall reach the city of Chiapa de Corso, passing through Tuxtla Gutierrez, with the understanding that two years are allowed to the company to decide as to whether it will build said branch, at the end of which period, and failing a statement on the part of the company of its intention to build, the authorization shall be regarded as at an end.

The company must in the first year complete at least 50 kilometers and 80 kilometers in each of the subsequent years, completing the main line in six years.

The gauge of the main line between the interior edges of the rails will be 1.435 meters, but a third rail may be laid, if the company sees fit, in order to connect with other lines of smaller gauge.

The tractive power shall be steam, electricity, or any other system to be approved by the same department.

No other concession shall be granted, for a period of ten years, for the construction of lines paralleling either wholly or in part the lines comprised under this concession, within a zone of 20 kilometers on either side.

The Government agrees to grant the company a subsidy of $12,000 for every kilometer of road constructed and approved by the Department of Communications and Public Works.

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IMPORTANT CANAL.—COMMUNICATION BY WATER BETWEEN TUXPAN AND TAMPICO.

In an interview with Charles Shillaber, the engineer in charge of the Government work of opening the big canal between Tampico and Tuxpan, he spoke substantially as follows:

"All the preliminaries are now settled, as we are ready to commence active work, and, in fact, we have commenced already. The Government has been very liberal, and has supplied us with the most approved modern machinery for the economical handling of material. I would not dare to say how long it will take to open steamboat communication with Tuxpan. If the machinery is at work by March 1, 1902, it would take us ninety days to open the north end, which would be within 30 kilometers of Tuxpan.

"Here, there will be a portage of 5 kilometers to the north end of Lake Tampamachoco, and thence by steamer 25 kilometers. A company is now ready to put on a line of comfortable, swift, light-draft steamers as soon as this north end is open.

"They will carry passengers, mail, and express to Mojarras, thence in carriages to another steamer, which will take them to Tuxpan, making the trip from Tampico to Tuxpan in about eighteen hours. This portage is where the new canal is to be opened.

"The Tuxpan River is a perfect water way. It is wide enough and deep enough to maneuver a European war fleet, and has not a snag nor a shoal throughout the entire length.

"This canal will be a great boon to this country, and the benefits are already noticed.

"The main cities directly on the line are Tampico, Rievera, Tamiahua, Tuxpan, and Tumbadero. Tampico has perhaps 15,000 inhabitants, and is growing fast in wealth and population.

"Tuxpan is a city of perhaps 5,000 inhabitants; it has a number of large warehouses.

"The other cities are smaller, but prosperous, and will take on new life when the canal reaches them. This part of the country is very little known, as there has never been any way of getting in or out of it with any certainty."

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NOTES.

German Cotton Yarn for South America.—Consul Monaghan, of Chemnitz, writing under date of October 17, 1901, notes as illustrating the successful efforts of German traders to win South American markets a recent transaction with a firm in Chile. The company imports annually hundreds of thousands of kilograms of cotton yarn in tubes, and has decided to obtain the yarn from Chemnitz, instead of from England, as formerly. The consul thinks that United States manufacturers should be in a position to compete for the cotton-yarn market of South America. He says:

It seems strange that German manufacturers can buy American cotton in Liverpool and elsewhere, pay enormous freights, bring it to this city—almost 300 miles from the sea—work it up into cops, and reship it to Chile. The success of the Germans may be due to the longer credits they give everywhere. Germans have an exact knowledge of the market and the individuals with whom they are dealing. It is my belief that our system of quoting f. o. b. New York, Philadelphia, Boston, etc., is a serious drawback to our foreign trade. An importer of grain told me not long ago that it was impossible for him to deal direct with the United States, as he had to pay when goods were put on the vessel in New York; further, he received all the Hungarian grain he could dispose of laid down in Chemnitz, and paid for it on time. The Germans give long credits and expect them in return.

New Mexican Cable.—Under date of November 21, 1901, Consul Canada, of Veracruz, reports that the Mexican Government has contracted with the Safety Insulated Wire and Cable Company for a submarine cable to be laid between Veracruz, Frontera, and Campeche. The cable is to be 472 nautical miles long; there must be enough to reach a depth of 49 feet in the port of Campeche and 65 feet in the ports of Veracruz and Frontera. It is to be made of nine copper wires, protected by sixteen galvanized iron wires for the deep sea and eighteen additional steel wires for the coast. The manufacture of the cable will be under the supervision of the Mexican Government. The company is to receive for the work $600,000 gold, of which $283,000 is to be paid when the cable is placed in service and the balance in two and four months thereafter. The cable must be ready for service on April 2, 1902.

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Financial and Labor Conditions in Spain.—Vice and Deputy Consul Byrne writes from Valencia that there has been a serious depreciation of Spanish currency, which now stands at 43 per cent loss on gold standard. He adds:

The continual fluctuations and general decline of currency values in this country now constitute a standing impediment to foreign trade, because, apart from the actual loss to importers from depreciation, they introduce a disturbing element of uncertainty and speculation into the most legitimate commercial transactions. As a practical demonstration of the situation, I may state that Valencia importers who purchased American goods last July and were drawn upon at sixty days' date in United States gold are now paying 5 per cent more in Spanish currency than the value of the dollars at the time of purchase.

Valencia masons struck recently for shorter hours, and, although lacking effective organization, have succeeded in obtaining for the first time in this country an eight-hour labor day, thereby creating a precedent of far-reaching effect, as it has been followed by a general strike of masons and cognate trades all over Spain.

Eggs in Belgium.—Under date of Brussels, November 8, 1901, Consul Roosevelt transmits the following:

In view of the fact that Belgium annually imports large quantities of eggs from various European countries to meet the demand of home consumption, I transmit the following report, which may interest egg dealers in our country desiring to extend their business, as Belgium is a good market for fresh eggs and pure butter. Prior to the past two or three years, Italy enjoyed almost a monopoly in furnishing Belgium with eggs. Since 1899, Bulgaria has been Italy's most important competitor in this special exportation, and in that year shipped 3,100,000 kilograms (6,820,000 pounds)—in Bulgaria eggs are sold by weight—representing a value of $328,100; and last year the quantity exported amounted to 4,500,000 kilograms (9,900,000 pounds), valued at $463,200. Since January, 1901, the exportation of eggs from Bulgaria has tripled.

New Coal Mine at Triviéres, Belgium.—Consul Roosevelt writes from Brussels, October 23, 1901:

A new coal mine situated in the hamlet of Quesnoy, at Triviéres, in this consular district, was opened on October 20, 1901. This new mine, upon which several millions of francs have been expended, is

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composed of two pits, sunk at a distance of 43 meters (142.04 feet) apart. The rapidity with which these pits were sunk is said to be without precedent in the annals of mines. The first shaft was commenced on full level ground February 23, 1899, and terminated early in December, 1900, on reaching coal. Work on the second pit was started August 22, 1900, and reached the proper depth February 16, 1901. The system employed in sinking the shafts was very nearly identical with the Kind-Chaudron method, and consisted in the suppression of small pits; which necessitated a peculiar kind of mud and refuse dredging. The surface installations are most extensive. About 1,000 workmen will be employed in the interior of the pits, and the extraction is expected to reach 900 to 1,000 tons of coal per day.

New Coal Field in Belgium.—Under date of November 5, 1901, Consul Winslow, of Liege, reports the discovery of a soft-coal basin at Asch, in the province of Limbourg, a few miles to the north of Liege. The coal much resembles that found at Westphalia, Germany. It contains from 18 to 20 per cent of volatile matter. The first vein was discovered at a depth of about 1,640 feet, and between this and 1,968 feet five veins have been discovered, ranging from 2.6 feet to 6.6 feet. It is thought this basin covers about 24,700 acres. A German company from Westphalia has begun to develop a mine, and the John Cockerill Company, which has extensive mills at Seraing and shipyards at Antwerp, has decided to build large works in the basin.

Coal in Spitzbergen.—Consul-General Bordewich writes from Christiana, November 9, 1901, in regard to coal deposits recently found in Spitzbergen. According to newspaper reports, there are indications that remunerative coal mining might be conducted in the islands, provided sufficient capital were invested. It is stated that the shaft sunk by the people of Trondhjem is located near the shore, at Advent Bay, where a safe harbor is found. After having blasted 40 feet through clear ice, solid rock was struck, and at a depth of 60 feet dry coal of good quality was found. The layer of coal had a thickness of 10 feet and appeared to be extensive. In the mountain were also found petrified apples, pears, nuts, and even leaves of bananas.

It is understood, adds the consul-general, that coal is being mined in the Faroe Islands, under Danish management.

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Foreign Demands for American Coal.—Consul-General Skinner reports from Marseilles, October 24, 1901:

Messrs. D'Artoz Petiaux & Co., 22 rue de la Rotonde, Marseilles, controlling the Société des Comptoirs Franco-Ethiopiens, write to me, under date of October 24, as follows:

> We are upon the point of opening a coal depot at Djibouti, Red Sea, where are located the headquarters of our establishments, and we ask you to be kind enough to indicate to us, or to put us in relations with, some important miners of American coal, either for purchase or consignments.

I have received similar inquiries from the following firms: M. Prosper Lauze, 59 rue Fabrerie, Alais, Gard; Señor Olivares, Acequia, 12, 1°, Barcelona, Spain; Monsieur Epercieux, 79 rue Nationale, Firminy, Loire.

The labor situation, as respects the mining industry in France, is in a very troubled state, and it might be well for American exporters to familiarize themselves with conditions in this country.

Demand for Anthracite in the Netherlands.—The Bureau of Foreign Commerce has received a letter from Messrs. A. A. W. Van Reede, Ammanstraat 2, Rotterdam, dated October 27, 1901, reading:

> There is at present a great demand for American coal, especially anthracite, here and in Germany, and I am very anxious to obtain all possible information regarding this special kind. I have in mind only the very best quality. I am referred to you by the American consul here. If possible, kindly give me names of the best mines and where located; also names of owners and headquarters in this line. As I ask this information with the view of importing anthracite at Rotterdam, you will understand best what data would be most valuable.

Threatened Coal Strike in France.—Consul Atwell sends the following from Roubaix, October 16, 1901:

The secretary-general of the Federation of French Miners declared recently, at a congress of workingmen held in Lyons, that all coal miners in France would strike on November 1, if their demands for an eight-hour law and a minimum wage and a pension of 2 francs (38.6 cents) per day after twenty-five years' service, without regard to age, were not accorded. The Government is said to be willing to pass the eight-hour law, but will refuse absolutely to consider the proposition to pension miners for length of service. In order to force concessions on the part of the Government, meetings have been held in mining centers. The number of working miners in France is about 160,000.

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Taxes on Bicycles in France.—Consul Covert writes from Lyons, October 21, 1901:

The Minister of Finance of France has just published the statistics for 1900 of the number of bicycles in use in France and the amount realized from the tax on them.

The total number in the eighty-six Departments at the close of the year 1900 was 739,335. The total tax on these wheels for the year was $1,094,995. The total number of bicycles in use and registered during the last seven years is given as follows:

	Number.
1894	203,026
1895	256,084
1896	329,816
1897	408,869
1898	483,414
1899	838,856
1900	987,130

French Wine for America.—Consul Jackson, of La Rochelle, under date of October 15, 1901, reports that several owners of large vineyards have recently made inquiries concerning the United States as a market for their products. He says:

Both red and white wines are produced here in large quantities; most of the white is used for distillation. The vintage just finished in this Department (Charante Inférieure) has probably produced:

Where produced.	Quantity.	
	Hectoliters.	*Gallons.*
Island of Ré	200,000	5,280,000
Island of Oleron	150,000	3,960,000
Mainland	1,500,000	39,600,000
Total	1,850,000	48,840,000

These wines, which are good for ordinary table use, can be delivered on board ship here for from 15 francs ($2.90) to 20 francs ($3.86) per hectoliter (26.417 gallons).

Harvests in Germany.—Consul Albert writes from Brunswick, November 9, 1901:

The agricultural journal Getreidemarkt, published in Berlin, has made a calculation of the probable results of the harvest in Germany for the present year, based on answers to 5,000 circular letters of inquiry. It is estimated that the wheat crop will amount

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to 2,470,000 tons; rye, to 8,145,500 tons; summer barley, to 3,021,860 tons; and oats, to 7,105,000 tons. This calculation shows, in comparison with the official estimates of the harvest of 1900, a deficiency in wheat of 1,837,560 tons and in rye of 405,200 tons; a surplus in oats of 265,000 tons and in barley of 20,000 tons. It is calculated that during the present year there will be an import demand by Germany of 3,000,000 tons (110,000,000 bushels) of wheat and 1,000,000 tons (37,000,000 bushels) of rye.

Proposed Lessening of German Sugar-Beet Production.—The following translation from the Frankfurter Zeitung has been forwarded by Vice-Consul-General Murphy, of Frankfort:

The supervising committee of the German sugar syndicate decided at its last meeting to use its influence—owing to the depressed condition of the sugar market, which can be bettered only by lessening production—for the purpose of reducing the cultivation of beets in 1902. An effort will be made to effect an international agreement on this subject. According to the organ of the ring (The German Sugar Industry), at the meeting referred to the opinion was expressed from all sides that the decline in the price of beets will cause the planting of fewer beets in future. Time will show whether this view is a correct one. So long as the Government assists the industry with bounties and in other ways, a normal development of the business of raising beets can hardly be expected. The overproduction, which it is now desired to combat, has been artificially caused or at least encouraged.

Sewing-Machine Trade.—Under date of October 26, 1901, Deputy Consul-General Hanauer, of Frankfort, says:

The following figures give the value of sewing machines imported and exported by the leading industrial countries in 1900:

Country.		Exports.	Imports.
Germany	marks ...	20,300,000	8,200,000
	dollars...	4,831,400	1,951,600
France	francs ...	.....	12,600,000
	dollars...	.....	2,431,800
Great Britain	pounds...	1,452,000	280,000
	dollars...	7,066,158	1,362,620
Austria-Hungary (including knitting machines)	crowns...	.....	3,400,000
	dollars...	.....	690,200
Switzerland	francs ...	300,000	2,100,000
	dollars...	57,900	405,300
United States	dollars...	4,500,000	.....

A German paper, in commenting on the above statistical showing, notes the complaints of German manufacturers of the sharp competition from the United States.

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New Process of Glazing Crockery.—Under date of October 30, 1901, Consul Bergh, of Gothenburg, reports:

The newspapers here report that the English Government has recently enacted a law prohibiting the use of poisonous white-lead glazing in the crockery industry. It is further said that this has brought forth protests from a number of English manufacturers, who consider the law nearly impossible to comply with. The Rörstrand Porcelain Factory in Sweden and a factory in Dresden, Germany, have, however, solved this important technical problem by mixing the white lead in the glazing with certain substances converting the lead into an insoluble—and thus harmless—silicate of lead. The English Government has sent a chemist to study the new method.

Demand for Nails and Cotton Waste in Austria.—Consul Hossfeld reports from Trieste, November 6, 1901:

There is in southern Austria a good market for screws and wire nails, especially the latter. These articles have been supplied in the past chiefly by England and Germany. Messrs. Greinitz Neffen, the leading wholesale and retail hardware merchants of Trieste, have informed me that they would be pleased to receive samples of American wire nails, with prices f. o. b. New York.

My attention has also been called to the fact that there is here a large demand for cotton waste, which the inland cotton mills can not supply. Offers for this article should be addressed to Mr. Luigi Zuculin, via Ghega 2, Trieste.

Communication with Cyprus.—Consul Ravndal, of Beirut, October 31, 1901, writes:

The Austrian Lloyd mail service between Alexandria and Cyprus, referred to in my report on the Commerce of Cyprus (CONSULAR REPORTS No. 253, October, 1901*), came to an end on the 29th instant, when the last of the company's boats left for Larnaca. The contract between the Austrian Lloyd Company and the British Government for carrying the mails to and from Cyprus expires today. The Syrian and Caramanian steamers of this company will now commence to call at Limassol and Larnaca on leaving Beirut, as do the steamers of the Compagnie Française des Messageries Maritimes and most other steam vessels visiting Cypriot ports.

*ADVANCE SHEETS No. 1099.

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Furniture in Constantinople.—Deputy Consul-General Hanauer writes from Frankfort, October 25, 1901:

An article in the Moniteur Officiel du Commerce treats of the furniture trade in Constantinople, which is said to be constantly increasing. This trade, which formerly was supplied by French furniture exporters, now seems to be mainly in the hands of Italians, as their price and style suit the market better. Efforts have been made to introduce American furniture, which is admitted to be good and lower in price, but it is not made in accordance with the prevailing taste. Austria furnishes chairs and sideboards. Dining-room and bedroom sets are principally in demand.

American Tin Plate for Syria.—Under date of November 1, 1901, Consul Ravndal, of Beirut, says:

More or less successful efforts have been made during the last few years to can Syrian fruit for export. Some eighteen months ago, a French concern opened a regular factory in Beirut for the canning and preserving of fruits and for the manufacture of sweets and confectionery. To take care of a part of the present year's fruit crop, some 5,000 tins were imported from Europe. It is evident that the industry is growing. The manager, with whom I recently had an interview, is desirous of getting tin plates from the United States, as the present arrangement for obtaining cans is very expensive. American manufacturers of tin plate are requested to address Messrs. Ch. Gailhac Rosalt & Co., Société Française de Confiserie, Beirut, Syria.

Steamship Line from Hamburg to the Philippines.—Vice-Consul-General Murphy, of Frankfort, transmits to the Department, November 5, 1901, a clipping from the Frankfurter Nachrichten, of even date, of which the following is a translation:

The East-Asiatic Freight Steamship Line, which is under the joint control of the North German Lloyd and the Hamburg-America companies, now furnishes direct communication between Hamburg and Manila. The freight steamer *Strassburg* has been sent via Bremen, Rotterdam, and Singapore directly to Manila, and will thence proceed to Japan. Formerly, it was necessary to unload and reload cargo for Manila at Singapore.

Germany's Colonial School.—Under date of October 22, 1901, Consular Agent Harris writes from Eibenstock:

Within the past two years, the German colonial school at Wilhelmshof, in Witzenhausen, has educated and sent twenty-five young

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men to German East and Southwest Africa, Kamerun, Togo, South Sea Islands, Ecuador, Brazil, Philippines, Cape Colony, and Sumatra. The course of study given in this school is as follows: History, colonial economics, commercial politics, chemistry, botany, geology, natural history, tropical climates, tropical agriculture, bookkeeping, and gardening, with special attention to raising vegetables, fruit and vines, and forestry. A chemical laboratory, a blacksmith, a locksmith, a cabinetmaking, and other departments have been arranged, where work is practiced as taught.

Trade School at Solingen.—Consul Langer reports from Solingen, October 26, 1901, in regard to a trade school recently organized in that city. He says:

It is obligatory for all tradesmen, whether apprentices, assistants, or factory laborers, to attend from four to six hours weekly until they reach the age of 17 years. The employer must pay into the city treasury the amount necessary for materials, viz, 3 marks (72 cents) annually, used by each person in his employ and under obligation to attend the school, but he can deduct such amount from the employee's compensation. The institution is supported by the city and State.

Peat as Fuel for Locomotives in Sweden.—Consul Bergh sends the following from Gothenburg, October 30, 1901:

The Vislanda-Bolmen Railroad, Sweden, made a few days ago an experiment with pressed and dried peat as fuel with an extra train consisting of locomotive, fifteen loaded freight cars, and one passenger car. The distance was about 22 miles, and the time-table was set for lower speed than the ordinary, but this extra train arrived in due time at the respective stations, and at the final station fifteen minutes ahead of time. Considering the fact that the locomotive in use was built for using coal only, the result of the trial is regarded as very satisfactory.

Proposed Electric Tramway at Northampton.—Consul McFarland reports from Nottingham, October 26, 1901:

The horse-tramway system of Northampton, which was established by a private company in 1881, was this week taken over under purchase by the Northampton corporation, at a transfer price of £37,500 ($182,493.75). The working hours of employees have been reduced and other reforms instituted; but the purpose of the city in acquiring the plant is to convert it into an electric system, and enlarge it

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to suit the needs of the locality. This conversion of private into public tramway enterprises is proceeding generally throughout England, and in every instance so far has been preliminary to the institution of modern electric service.

Artificial Fertilizer in South Australia.—Consul-General Hughes writes from Coburg, October 23, 1901, that according to German reports the importation of artificial manures into South Australia has grown enormously since 1897. In 1899, besides the 4,000 tons produced in the colony, 12,000 tons were imported; in 1900, 3,400 tons of the home product were used and 21,206 tons were imported; and for the present year it is estimated that 31,400 tons will be wanted, of which quantity 26,400 tons will have to be imported. The value of the manure imported so far this year amounts to $540,000. The 31,400 tons for this year can be classified as follows, viz, 25,500 tons of mineral superphosphate, 2,700 tons of bone and guano, 1,600 tons of Thomas meal, and 1,600 tons of bone dust, etc. Of the gross amount, Great Britain supplies about 21,500 tons, Germany 2,500 tons, New South Wales 1,300 tons, and Victoria about 500 tons. The consul-general thinks the United States should have a share of this trade.

American Goods for Australia.—Consul-General Bray reports from Melbourne, October 25, 1901, that one of the most valuable cargoes ever carried to Australia has just arrived there from Brooklyn. It includes twenty-four locomotives built by the Baldwin Locomotive Works for the government of New South Wales, some 4,000 tons of miscellaneous manufactured goods shipped by various commission houses doing business with Australia, and about 700 tons of paper. The cargo amounts to nearly 10,000 tons, and is valued at over $1,000,000.

Railroad Material in Chile.—Consul-General Hughes, of Coburg, under date of October 26, 1901, says:

According to a semiofficial report, the Chilean Senate has passed a law by which the administration has at its disposal 11,150,000 pesos ($4,069,750), to be drawn within four years, for the purchase of engines and cars; also, for the building or enlargement of repair shops, as well as for the maintenance of the railroad lines, the bridges, and other parts of the Government railroad. It is further stated by this law that the Chilean Government is not bound to buy its supplies entirely from the inland workshops. This leaves an opening for outsiders, of which our manufacturers ought to take advantage.

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Freight Rates from Brazil.—Consul-General Seeger reports from Rio de Janeiro, October 24, 1901, that the freight rates of the syndicate whose steamers ply between New York and Rio and Santos will, on November 1, be reduced from 35 cents and 5 per cent per bag of coffee of 60 kilograms (132 pounds) to 30 cents and 5 per cent, from Santos and Rio to New York.

New Electric Railway in Ontario.—Commercial Agent Hamilton, of Cornwall, November 1, 1901, reports that United States and Canadian capitalists have formed a company to build and operate an electric railway from Toronto to Cornwall, with a branch line from Brockville to Ottawa. The surveying and other preliminary work has been done, and at the next meeting of Parliament application will be made for a charter.

Harbor Improvements in the Canary Islands.—Consul Berliner, of Teneriffe, on October 14, 1901, reports that the Spanish Government, on October 2, approved an appropriation of 1,102,915 pesetas (about $165,000) for building and improving the mole and breakwater, and providing for the storage of water at Arecife, the capital of the island of Lanzarote, Canary Islands. These improvements, says the consul, will increase the trade and shipping, which had fallen off on account of lack of harbor facilities.

American Agency in Liberia.—Consul-General Smith reports from Monrovia, September 5, 1901:

I have been endeavoring to open a market in Liberia for American manufactures, and have induced the Yates & Porterfield Trading Company, 19 Williams street, New York (sailing a fleet of vessels between New York and Freetown, Sierra Leone), to rent quarters on Water street, Monrovia, with a view to starting an American house. This will give an opening for our meats, fruits, and other products.

German Demand for Coal-Tar Pitch.—Consul Kehl reports from Stettin, November 6, 1901, that the James Stevenson Aktien Gesellschaft, of Stettin, wish to buy coal-tar pitch. The article must be almost pure, not to exceed one-half of 1 per cent of ash. The consul is informed that the present supplies of the firm come from Great Britain, and the cost is about 40s. ($9.72) per ton c. i. f. Stettin. Correspondence can be conducted in English.

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American Warehouse in Shanghai Closed.—Under date [illegible], Consul-General Goodnow sends from Shang[illegible] notice of the discontinuance of the exposition of Americ[illegible] manufactures maintained by the National Association of Man[illegible] and known as "The American Warehouse in Shangha[illegible]

Consular Reports Transmitted to Other Departments.—Th[illegible] consular officers (originals or copies) ha[illegible] the date of the last report to other Depart[illegible] and action thereon:

[illegible]	Date	Subject.	Department to which referred.
[illegible]	[illegible]	Rye and oat crops in Russia	Department of Agriculture.
[illegible]	[illegible]	Agricultural conditions in Canada	Do.
[illegible]	[illegible]	[illegible]	Do.
[illegible]	[illegible]	Rice-market report	Do.
[illegible]	[illegible]	[illegible]	Do.
[illegible]	[illegible]	Horses in Belgium	Do.
[illegible]	[illegible]	[illegible] Germany	Do.
[illegible]	[illegible]	[illegible] bureau for German emigrants	Bureau of Immigration.
[illegible]	[illegible]	Rice crop of Bulgaria	Department of Agriculture.
[illegible]	[illegible]	Analyses of German wines	Do.
[illegible]	[illegible]	Tobacco in Belgium	Do.
[illegible]	[illegible]	[illegible] employment of prisoners	Bureau of Education.
[illegible]	[illegible]	Use of boric acid for [illegible]	Marine-Hospital Service.
[illegible]	[illegible]	Agricultural prospects in England	Department of Agriculture.
[illegible]	[illegible]	Agricultural statistics of [illegible]	Do.
[illegible]	[illegible]	[illegible]	Do.
[illegible]	[illegible]	[illegible] serum	Marine-Hospital Service.
[illegible]	[illegible]	[illegible] statistics of Canada	Bureau of Education.
[illegible]	[illegible]	[illegible] used in Bavaria	Department of Labor.
[illegible]	[illegible]	[illegible] in Germany	Do.
[illegible]	[illegible]	[illegible] German bicycle works	Do.
[illegible]	[illegible]	Cancer investigation	Marine-Hospital Service.
[illegible]	[illegible]	[illegible] census	Census Bureau.
[illegible]	[illegible]	[illegible] arbitration courts	Department of Labor.
[illegible]	[illegible]	Census of Falkland Islands	Census Bureau.
[illegible]	[illegible]	[illegible] death rate	Marine-Hospital Service.

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FOREIGN REPORTS AND PUBLICATIONS.

Trade Notes from Turkey.—The following is summarized from British Foreign Office Reports (Annual Series No. 2650):

The export of mohair is one of the most important branches of the trade of this district. At the beginning of 1900 prices were high, but they subsequently dropped, and there was a difference of 20 per cent between the beginning and end of the year. At present, there is no demand for mohair and the new clip is close at hand. The quality of mohair grown in Asia Minor, however, continues to command a higher price—from 2 to 4 cents per pound higher—than that imported from the Cape.

In regard to the import trade of Turkey, the difficulty of discriminating between solvent and insolvent customers is so great that trading is safe only when carried on through an agent. The question of agents has an importance in Turkey which it possesses in no other country. The large mass of consumers are Turks, and between them and the foreign producer comes either a local trader or a foreign agent. In the latter case, the intermediate profit is saved by bringing the consumer into contact with the producing house, and an experienced agent with a knowledge of the languages of the country has thus the double advantage of protecting the manufacturing house from fraud and of securing for it profitable custom, while the collection of debts becomes very much easier. The difficulty of language renders almost useless the system of sending commercial travelers. The importance to a trader in Turkey of a knowledge of the Turkish language can not be overestimated. It would be advisable for those engaged in trade with Turkey to send out a representative to familiarize himself with the language of the country and the peculiarities of the people. Experience shows that a sufficient knowledge of Turkish, in order to treat directly with Turks, can be acquired in a couple of years. The success of the Germans in obtaining a footing in this market must be attributed mainly to the influx of German commission agents and small traders, and to the assiduity with which they set themselves to learn the languages of the country.

A determined effort is being made to obtain a footing in this market for American goods. The consul-general of the United States is extremely active in the matter, and he has recently initiated an "exhibition," or sample warehouse, of American goods, so as to make them known on this market. Through the influence of the consul-general, a very well known Greek banker has been induced to invest capital in the establishment of this depot under the name of the "American Oriental Agency;" handsome premises have been engaged in a prominent position, and a large assortment of samples of American goods are displayed in a very attractive manner. The field covered is very wide, and samples have been collected of house and office furniture, hardware, wall and other papers, leather and electroplated goods, cottons, ropes, belting, machinery of various kinds, typewriters, etc. The line of steamers between New York and the Levant has been discontinued, owing to the failure to secure outward cargo. Arrangements are now being made for establishing a new service of steamers between the United States and levantine ports, the voyage to be extended into the Black Sea. A syndicate of American

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exporters has been formed to promote trade by means of the establishment of agencies in important centers. Agents are required to deposit with the syndicate the sum of $500 as a guaranty of good faith. A most important feature of the scheme is the establishment of a banking department, to enable a credit of thirty to sixty days to be allowed to buyers.

Commercial Conditions in Portugal.—A British Foreign Office report (No. 2635, Annual Series) has the following:

The total value of foreign importations into Portugal during the year 1900 amounted to $82,243,850, while the total value of produce exported from Portugal amounted to $51,098,250. Notwithstanding the notable excess in the value of the importations over the exportations, the commercial stability of Portugal has improved, and its foreign and home trade has increased in volume and value, thanks to the large income the country is now deriving from the valuable production of its West African colonies. Portugal proper derives its principal source of wealth from its agricultural industries, of which the leading is the cultivation of the vine and the production of its world-famed port wine. Portugal is rich in mineral ore, especially iron, but the mining industries are in a very backward state, only a few mines being worked. The competition in trade is keen. During the last twelve months, about two hundred German commercial travelers visited Lisbon, as against about thirty to the credit of the United Kingdom, with the result that German trade is making rapid advances in Portugal. German manufacturers also publish their catalogues in the language of the country where the catalogue is to circulate. Foreign tradesmen seldom understand any other language but their own. The United Kingdom has hitherto monopolized the coal trade of Portugal, but during the last year several cargoes of American coal were imported, and this probably means competition in future. German and American manufacturers are making strenuous efforts to introduce their hardware, machinery, and agricultural implements. In woolen, linen, and cotton goods, British manufacturers maintain a strong hold on the Portuguese market, but the German, French, and Belgians are beginning to introduce these articles with considerable success. Although there is not much room for the expansion of trade beyond the present limit, or for the development of new commercial enterprises on a large scale in Portugal proper, yet it should be remembered that the vast Portuguese colonies of the east and west coasts of Africa are future emporiums of wealth to the merchant and to the investor.

Commerce of Mozambique.—From Annual Series No. 2608 of British Foreign Office Reports, the following is taken:

The import trade of Mozambique has for some years been on the decline, as the following table shows:

Year.	Imports.	Exports.	Total.
1898	$849,398	$293,246	$1,142,644
1899	443,893	239,953	683,846
1900	439,693	303,835	743,528

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There being no manufactories and few industries, trade is limited to articles for domestic use, building materials, and native requirements. These last are the most important, as Mozambique forms the depot for the mainland. Cheap and gaudy cotton shawls and handkerchiefs, blankets, hoes, axes made after the native model, brass wire, trinkets, cheap cutlery, white shirting, etc., are the chief articles in demand for this trade, which, with the opening up of the interior, has every possibility of increasing. The cotton and woolen markets are stocked almost entirely for native trade, and the fact that German, Dutch, and Belgian houses have the preference is due to the goods supplied from these countries being of the cheapest and gaudiest description, this suiting native tastes and ideas, and affording, at the same time, a considerable profit to the manufacturers and venders. European traders have equal advantages, with the exception of Portugal, which allows preferential dues on its own manufactures. Catalogues must be either in Portuguese or French, and in all cases must give prices and quantities in the Portuguese or metric systems. About one-seventh of the total imports comes from and is the produce of Portugal.

Groundnuts form the most important article of export. The rubber industry is not systematically worked, owing to the unsettled condition of the natives on the mainland; the little that is collected is obtained in such a crude manner that the value is greatly reduced. Local law attempts to remedy this by prohibiting the export of impure rubber, under heavy penalties. During the past year, the Nyassa Company—an Anglo-Portuguese company with headquarters at Lisbon—has taken in hand the administration of the northern half of the Mozambique province, and has made immense strides in the development of the country, which will have an effect not only on the local trade, but on the carrying trade between Lake Nyassa and the northern territories.

Traffic of Johore.—The following is taken from Trade and Shipping in Southeast Asia, London:

Johore occupies the southern portion of the Malay Peninsula, and has an area of about 9,000 square miles. The population of the state is remarkable for containing a larger number of Chinese than of Malays. The state is under the protection of the British Government, but is ruled by an independent sultan. The capital is Johore Bhâru, a flourishing little place on the nearest point of the mainland to Singapore Island. It contains some 20,000 inhabitants, mostly Chinese. A plentiful supply of water is obtained by means of pipes from a stream in the hills about 12½ miles distant. Good roads are being made, and to meet the requirements of the Padang district, a light railway was completed some years ago as far as Parit Java, a distance of 8 miles. Coaches and steam launches run daily to Singapore, and a telegraph line has been constructed between Johore Bhâru and that port. The principal exports of Johore are the carefully cultivated gambier, pepper, and sago, and the natural products of timber, rattans, and dammar. The only mineral in which the country is really rich is iron, though tin is known to exist. European pioneers have, in the last few years, made some experiments in planting, on a large scale, sago, tobacco, coffee, tea, and cocoa. The trade of Johore is principally carried on with Singapore. The total imports into the Straits Settlements from Johore in 1899 were valued at £840,000 ($4,087,860); the total exports from Straits Settlements to Johore, £389,000 ($1,893,069)—making the total trade for 1899 $5,980,929.

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Trade of Mauritius.—According to British colonial reports, the declared value of the produce and manufactures of Mauritius exported in 1900 was $10,038,386, compared with $7,918,757 in 1899. The value of imports for 1900 was $7,390,692 and for 1899, $6,541,272. The following table shows the import trade for the two years:

Description.	1899.	1900.	Increase.	Decrease.
Live animals, food, drink, and narcotics	$3,861,840	$3,300,284	.....	$561,556
Raw material	327,871	255,153	.....	62,718
Manufactures and miscellaneous articles	1,997,462	2,366,104	$368,642	.....
Coin, bullion, and specie	354,099	1,469,151	1,115,052	.....
Total	6,541,272	7,390,692	1,483,694	624,274

Peanuts on the Coromandel Coast and in Senegal.—A recent edition of Nachrichten für Handel und Industrie, of Berlin, says:

According to published statistics, the last peanut harvest on the Coromandel Coast yielded 49,000 tons, which, with an oil capacity of 40 per cent, would produce approximately 19,600 tons, or 110,000 barrels, of oil. The oil from this district has not a rticularly good flavor, and is used for the manufacture of soap. The harvest matured early this year, and 125,000 bales, sufficient for 20,000 barrels of oil, were sold for delivery at Marseilles in February. On the coast of Senegal, 60,000 tons of peanuts were harvested. These nuts do not contain as much oil, but it is of a finer quality, and is used as a substitute for olive and cotton-seed oil.

Trinidad Trade in 1900.—British returns give the value of imports into Trinidad in 1900 as $12,165,077, an increase of $447,718 over those for 1899, leaving out of account bullion and specie. The exports amounted to $12,579,167, being an increase of $102,197 over the preceding year. The shortage of the sugar crop caused a diminution of $389,320 in the value of the exported produce of the colony.

The trade was distributed by countries as follows in 1900:

Country.	Imports.	Exports.
United Kingdom	$4,289,304	$4,785,497
British colonies	824,117	384,308
United States	2,946,203	3,856,404
Venezuela	3,176,613	1,406,681
Other countries	928,840	2,146,277
Total	12,165,077	12,579,167

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PUBLICATIONS OF THE BUREAU OF FOREIGN COMMERCE.*

The publications of the Bureau of Foreign Commerce, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from diplomatic and consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued daily, except Sundays and legal holidays, for the convenience of the newspaper press, commercial and manufacturing organizations, etc.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months. There is also issued an annual edition of Declared Exports, embracing the returns for the fiscal year.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883; Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885–86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs in Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

In 1890, the Department decided to publish reports on special subjects in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1890 and 1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet-Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries. (New edition, 1897.)

Vol. 4 (1891).—Port Regulations in Foreign Countries.

Vol. 5 (1891).—Canals and Irrigation in Foreign Countries. (New edition, 1898.)

Vol. 6 (1891 and 1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

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* Formerly Bureau of Statistics. Name changed to Bureau of Foreign Commerce by order of the Secretary of State, July 1, 1897.

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Vol. 9 (1892 and 1893).—Australian Sheep and Wool and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour. (New edition, 1897.)

Vol. 11 (1894).—American Lumber in Foreign Markets. (New edition, 1897.)

Vol. 12 (1895).—Highways of Commerce. (New edition, 1899.)

Vol. 13 (1896 and 1897).—Money and Prices in Foreign Countries.

Vol. 14 (1898).—The Drug Trade in Foreign Countries.

Vol. 15 (1898).—Part I. Soap Trade in Foreign Countries; Screws, Nuts, and Bolts in Foreign Countries; Argols in Europe, Rabbits and Rabbit Furs in Europe, and Cultivation of Ramie in Foreign Countries. Part II. Sericulture and Silk Reeling and Cultivation of the English Walnut.

Vol. 16 (1899).—Tariffs of Foreign Countries. Part I. Europe. Part II. America. Part III. Asia, Africa, Australasia, and Polynesia. Supplement (1900). Tariffs of Chile and Nicaragua.

Vol. 17 (1899).—Disposal of Sewage and Garbage in Foreign Countries; Foreign Trade in Coal Tar and By-Products.

Vol. 18 (1900).—Merchant Marine of Foreign Countries.

Vol. 19 (1900).—Paper in Foreign Countries; Uses of Wood Pulp.

Vol. 20 (1900).—Part I. Book Cloth in Foreign Countries, Market for Ready-Made Clothing in Latin America, Foreign Imports of American Tobacco, and Cigar and Cigarette Industry in Latin America. Part II. School Gardens in Europe. Part III. The Stave Trade in Foreign Countries.

Vol. 21 (1900).—Part I. Foreign Markets for American Coal. Part II. Vehicle Industry in Europe. Part III. Trusts and Trade Combinations in Europe.

Vol. 22 (1900 and 1901).—Part I. Acetic Acid in Foreign Countries. Part II. Mineral-Water Industry. Part III. Foreign Trade in Heating and Cooking Stoves.

Vol. 23 (1901).—Part I. Gas and Oil Engines in Foreign Countries.

Of these SPECIAL CONSULAR REPORTS, Australian Sheep and Wool, Cotton Textiles in Foreign Countries, Files in Spanish America, Fire and Building Regulations, Fruit Culture, Gas in Foreign Countries, India Rubber, Lead and Zinc Mining, Malt and Beer in Spanish America, Port Regulations, Refrigerators and Food Preservation; Sericulture, etc.; Vagrancy, etc., are exhausted, and no copies can be supplied by the Department.

There was also published, in 1899, Proclamations and Decrees during the War with Spain, comprising neutrality circulars issued by foreign countries, proclamations by the President, orders of the War and Navy Departments, and war decrees of Spain.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, Porto Rico, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Foreign Commerce, Department of State, Washington, U. S. A."

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VALUES OF FOREIGN COINS AND CURRENCIES.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

The fact that the market exchange value of foreign coins differs in many instances from that given by the United States Treasury has been repeatedly called to the attention of the Bureau of Foreign Commerce. An explanation of the basis of the quarterly valuations was asked from the United States Director of the Mint, and under date of February 7, 1898, Mr. R. E. Preston made the following statement:

"When a country has the single gold standard, the value of its standard coins is estimated to be that of the number of grains fine of gold in them, 480 grains being reckoned equivalent to $20.67 in United States gold, and a smaller number of grains in proportion. When a country has the double standard, but keeps its full legal-tender silver coins at par with gold, the coins of both gold and silver are calculated on the basis of the gold value.

"The value of the standard coins of countries with the single silver standard is calculated to be that of the average market value of the pure metal they contained during the three months preceding the date of the proclamation of their value in United States gold by the Secretary of the Treasury. The value of the gold coins of silver-standard countries is calculated at that of the pure gold they contain, just as if they had the single gold standard.

"These valuations are used in estimating the values of all foreign merchandise exported to the United States."

The following statements, running from January 1, 1874, to January 1, 1902, have been prepared to assist in computing the values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1896, and in the quarterly valuations thereafter.

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To meet typographical requirements, the quotations for the years 1875–1877, 1879–1882, 1884–1887, 1895, and 1897 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

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A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange."

Countries.	Standard.	Monetary unit.	Value in U.S. gold.	Coins.
Argentine Republic..	Gold and silver..	Peso.....	$0.96,5	Gold—argentine ($4.82,4) and ½ argentine; silver—peso and divisions.
Austria-Hungary*.....	Gold	Crown.....	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium.....	Gold and silver..	Franc	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil	Gold	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	.....do.....	Dollar.....	1.00	
British Honduras.....	.....do	.....do	1.00	
Chile.....	.....do	Peso.....	.36,5	Gold—escudo ($1.25), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Costa Rica.....	.....do	Colon.....	.46,5	Gold—2, 5, 10, and 20 colons; silver—5, 10, 25, and 50 centisimos.
Cuba	Gold and silver..	Peso.....	.92,6	Gold—doubloon ($5.01,7); silver—peso (60 cents).
Denmark.....	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Ecuador†	.....do	Sucre.....	.48,7	Gold—10 sucres ($4.8665); silver—sucre and divisions.
Egypt.....	.....do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland	.....do	Mark.....	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver..	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark.....	.23,8	Gold—5, 10, and 20 marks.
Great Britain.....	.....do	Pound sterling..	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece	Gold and silver..	Drachma.....	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	.....do	Gourde.....	.96,5	Silver—gourde.
India‡.....	Gold	Rupee.....	.32,4	Gold—sovereign ($4.8665); silver—rupee and divisions.
Italy	Gold and silver..	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Japan §.....	Gold	Yen	.49,8	Gold—1, 2, 5, 10, and 20 yen.
Liberia	.....do	Dollar.....	1.00	
Netherlands.....	Gold and silver..	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar.....	1.01,4	Gold—$2 ($2.02,7).
Peru‖.....	.....do	Sol	.48,7	Gold—libra ($4.8665); silver—sol and divisions.
Portugal	.....do	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Russia ¶.....	.....do	Ruble	.51,5	Gold—imperial ($7.718) and ½ imperial ($3.80); silver—¼, ½, and 1 ruble.
Spain.....	Gold and silver..	Peseta.....	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway.	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver..	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Uruguay	.....do	Peso.....	1.03,4	Gold—peso; silver—peso and divisions.
Venezuela.....	Gold and silver..	Bolivar.....	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

*The gold standard went into effect January 1, 1900 (see Commercial Relations, 1899, Vol. II, p. 7). Values are still sometimes expressed in the florin, which is worth 2 crowns.

†Gold standard adopted in November, 1900. (See Consular Reports No. 225, June, 1899.)

‡For an account of the adoption of the gold standard, see Consular Reports No. 238, p. 359.

§Gold standard adopted October 1, 1897. (See Consular Reports No. 201, p. 259.)

‖Gold standard adopted October 13, 1900.

¶For an account of the adoption of the gold standard, see Review of the World's Commerce, 1896–97, p. 254.

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B.—*Countries with fluctuating currencies, 1874–1898.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1878.	1883.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.40,1	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.81,2	.69,9	.68	.85
Central America	do	Peso	.96,5	.91,8	.....	.69,9	.68	.85
China	do	Haikwan tael	1.61	.....	.....	.....	.....	.....
Colombia	do	Peso	.96,5	.96,5	.81,2	.69,9	.68	.85
Ecuador	do	do	.96,5	.91,8	.81,2	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	.....	4.97,4	4.90	4.94,3	.....	.....
India	Silver	Rupee	.45,8	.43,6	.38,6	.32,2	.32,3	.40,4
Japan	Gold	Yen	.99,7	.99,7	.....	.99,7	.99,7	.99,7
	Silver		.....	.....	.87,6	.75,3	.73,4	.91,7
Mexico	do	Dollar	1.04,7½	.99,8	.88,2	.75,9	.73,9	.92,3
Netherlands‡	Gold and Silver.	Florin	.40,5	.38,5	.....	.....	.....	.....
Peru	Silver	Sol	.92,5	.91,8	.81,2	.69,9	.68	.85
Russia	do	Ruble	.77,17	.73,4	.65	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.73,3	.63	.61,4	.76,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1891.	1892.	1893.	1894.	1896.	1898.
Austria-Hungary*.	Silver	Florin	$0.38,1	$0.34,1	.....	.....	.....	.....
Bolivia	do	Boliviano	.77,1	.69,1	$0.61,3	$0.51,6	$0.49,1	$0.42,4
Central America	do	Peso	.77,1	.69,1	.61,3	.51,6	.49,1	.41,4
Colombia	do	do	.77,1	.69,1	.61,3	.51,6	.49,1	.42,4
Ecuador	do	do	.77,1	.69,1	.61,3	.51,6	.49,1	.42,4
India	do	Rupee	.36,6	.32,8	.29,2	.24,5	.23,3	.20,1
Japan§	do	Yen	.83,1	.74,5	.66,1	.55,6	.52,9	.....
Mexico	do	Dollar	.83,7	.75	.66,6	.56	.53,3	.46
Peru	do	Sol	.77,1	.69,1	.61,3	.51,6	.49,1	.42,4
Russia§	do	Ruble	.61,7	.55,3	.49,1	.41,3	.39,3	.....
Tripoli	do	Mahbub of 20 piasters.	.69,5	.62.3	.55,3	.46,5	.44,3	.....

*The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (see CONSULAR REPORTS No. 147, p. 623) established the gold standard.

†The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

§See footnote, table of fixed currencies.

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C.—*Quarterly valuations of fluctuating currencies.*

Countries.	Monetary unit.	1899. Jan. 1.	1899. April 1.	1899. July 1.	1899. Oct. 1.	1900. Jan. 1.	1900. April 1.	1900. July 1.	1900. Oct. 1.
Bolivia	Silver boliviano.	$0.43,9	$0.43,4	$0.44,3	$0.43,6	$0.42,7	$0.43,6	$0.43,8	$0.45,1
Central America.	Silver peso	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6	.43,8	.45,1
China	Amoy tael	.71	.70,2	.71,6	.70,5	.69,1	.70,5	.70,9	.72,9
	Canton tael	.70,8	.70	.71,4	.70,3	.68,9	.70,3	.70,7	.72,7
	Chefoo tael	.67,9	.67,2	.68,4	.67,4	.66,1	.67,4	.67,8	.69,7
	Chinkiang tael	.69,3	.68,6	.69,9	.68,9	.67,5	.68,8	.69,3	.71,2
	Fuchau tael	.65,6	.65	.66,2	.65,2	.64	.65,2	.65,6	.67,4
	Haikwan tael	.72,2	.71,4	.72,8	.71,8	.70,3	.71,7	.72,1	.74,2
	Hankau tael	.66,4	.65,7	.67	.66	.64,7	.65,9	.66,3	.68,2
	Hongkong tael	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
	Ningpo tael	.68,2	.67,5	.68,8	.67,8	.66,5	.67,7	.68,2	.70,1
	Niuchwang tael	.66,5	.65,9	.67,1	.66,1	.64,8	.66,1	.66,5	.68,4
	Shanghai tael	.64,8	.64,1	.65,4	.64,4	.63,1	.64,4	.64,8	.66,6
	Swatow tael	.65,5	.64,9	.66,1	.65,1	.63,9	.65,1	.65,5	.67,4
	Takao tael	.71,4	.70,7	.72	.71	.69,6	.70,9	.71,4	.73,4
	Tientsin tael	.68,8	.68	.69,4	.68,3	.67	.68,3	.68,7	.70,7
Colombia	Silver peso	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6	.43,8	.45,1
Ecuador †	do	.43,9	.43,4	.44,3	.43,6				
India	Silver rupee‡	.20,8	.20,6	.21	.20,7	.20,3	.20,7	.20,8	
Mexico	Silver dollar	.47,7	.47,2	.48,1	.47,4	.46,4	.47,3	.47,6	.49
Persia	Silver kran	.08,1	.08	.08,2	.08	.07,9	.08	.08,1	.08,3
Peru †	Silver sol	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6	.43,9	.48,7

Countries.	Monetary unit.	1901. Jan. 1.	1901. April 1.	1901. July 1.	1901. Oct. 1.	1902. Jan. 1.
Bolivia	Silver boliviano.	$0.46,8	$0.45,1	$0.43,6	$0.42,8	$0.41,3
Central America	Silver peso	.46,5	.45,1	.43,6	.42,8	.41,3
China	Amoy tael	.75,7	.72,9	.70,5	.69,1	.66,9
	Canton tael	.75,5	.72,7	.70,3	.68,9	.66,7
	Chefoo tael	.72,4	.69,7	.67,4	.66,1	.63,9
	Chinkiang tael	.74	.71,2	.68,8	.67,5	.65,3
	Fuchau tael	.70,1	.67,5	.65,2	.64	.61,8
	Haikwan tael	.77,1	.74,2	.71,7	.70,4	.68
	Hankau tael	.70,9	.68,2	.65,9	.64,7	.62,6
	Hongkong tael	(*)	(*)	(*)	(*)	(*)
	Ningpo tael	.72,8	.70,1	.67,8	.66,5	.64,3
	Niuchwang tael	.71	.68,4	.66,1	.64,8	.62,7
	Shanghai tael	.69,2	.66,6	.64,4	.63,2	.61,1
	Swatow tael	.70	.67,4	.65,1	.63,9	.61,8
	Takao tael	.76,2	.73,4	.70,9	.69,6	.67,3
	Tientsin tael	.73,4	.70,7	.68,3	.67	.64,8
Colombia	Silver peso	.46,8	.45,1	.43,6	.42,8	.41,3
Mexico	Silver dollar	.50,9	.49	.49	.46,4	.44,9
Persia	Silver kran	.08,6	.08,3	.08,3	.07,9	.07,6

* The "British dollar" has the same legal value as the Mexican dollar in Hongkong, the Straits Settlements, and Labuan.

† See footnote, table of fixed currencies.

‡ The sovereign is the standard coin of India, but the rupee is the money of account. See also table of fixed currencies.

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FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalents.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovets	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096.5 square meters
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do*	Japan	1.31 pounds.
Do	Java, Siam, and Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chetvert	Russia	5.7748 bushels.
Chih	China	14 inches.

*More frequently called "kin." Among merchants in the treaty ports it equals 1.33⅓ pounds avoirdupois.

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Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Frasila	Zanzibar	35 pounds.
Fuder	Luxemburg	264.17 gallons.
Funt	Russia	0.9028 pound.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	6 feet.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Koku	Japan	4.9629 bushels.
Korree	Russia	3.5 bushels.
Kwan	Japan	8.28 pounds.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	113⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Spain	1.0144 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.

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Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅘ acres.
Do	Nicaragua and Salvador	1.727 acres.
Marc	Bolivia	0.507 pound.
Maund	India	82⅔ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Milla	Nicaragua and Honduras	1.1493 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.82838 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands	137.9 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Spain	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile,* Chile, Mexico, and Peru	101.41 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¼ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	0.02451 acres.
Seer	India	1 pound 13 ounces.
Shaku	Japan	11.9305 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Sun	Japan	1.193 inches.
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.

*Although the metric weights are used officially in Spain, the Castile quintal is employed in commerce in the Peninsula and colonies, save in Catalonia; the Catalan quintal equals 91.71 pounds.

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Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	Sweden	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Central America	32.87 inches.
Do	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Spain	0.914117 yard.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (1,000 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.

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Meter equals 39.37 inches.
Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acre.

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CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

Vol. LXVIII. FEBRUARY, 1902. No. 257.

NEED OF DIRECT STEAMSHIP SERVICE TO AFRICA.

The desire on the part of American manufacturers to extend their trade to foreign countries has caused many of them to scatter letters and circulars broadcast, with a view to advertising their goods, and lack of success does not seem to abate their persistency. That the senders of these circulars do not comprehend trade conditions outside of their own country is shown by the fact that they frequently express disappointment because their communications do not receive prompt attention, although as a rule these are not printed in the language of the countries to which they are sent.

But more serious than the attempted use of the English language for commercial purposes in countries where it is not current is the fact that many American manufacturers have apparently such confidence in the superiority of their goods over those of foreign make that they think it unnecessary to make any effort toward introducing them to foreign customers beyond sending them by rail to one of our seaports, and they accordingly quote their goods at prices in American currency "free on board," payable in drafts at short sight on delivery of the goods at New York.

The assumption seems to be that when the quality of the goods becomes known, through advertising in English in countries where the English language is not understood, foreign dealers will feel impelled to send for them, no matter how difficult and expensive the transit may be after the goods have left the United States, and no matter what advantages foreign exporters of the same classes of goods

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may be inclined to give. The superiority of American goods to those of foreign make has been emphasized so much of late that the effect has actually been misleading to many who wish to export, and has caused disappointments which might have been avoided, if the subject in hand had been better understood.

The prices quoted by our manufacturers "free on board" at New York might not in most cases be too dear for successful competition in new countries, where development is progressing rapidly, if means existed to transport the goods in American steamers by the most direct route to the countries where they are needed. Most unfortunately for the healthful development of American commerce with new countries, this is not the case. There are several fine steam lines (nearly all of them in the hands of foreigners and managed in the first place to suit the views and interests of foreigners) between ports of America and Europe; and some of the principal ports of Europe have efficient steam lines—managed exclusively in the interests of the countries which sustain them—direct to the new countries where manufactured goods are greatly needed, and where they bring the last and highest price. When the steamers belonging to these lines lack cargo from the countries to which they belong, their managers are of course not averse to receiving the goods of their competitors, which have already stood many extra expenses, besides paying a trans-Atlantic freight; and in this way, by making precarious and always costly connections, American goods can eventually reach their destination. They are often carried nearly 3,000 miles out of their way, and they are handled and levied upon to the end of their circuitous route by foreigners, who as a rule have no desire that they shall succeed. How can it be expected that American commerce will have the development it deserves in new countries, where manufactured goods are not produced, but where they are greatly needed, when nothing is done to change conditions which threaten even the continuance of the trade we already have?

I know it is contended that under conditions as they exist, commerce in America has nothing to complain of; that our exports have lately been vastly in excess of our imports in value; and that if foreigners can do our freighting cheaper than we can, while our capital is better employed in developing the resources of our own vast country, the best way is to let them do it. There is no doubt a fraction of truth in these assertions, but they are very far from covering the whole ground. Complacency may be natural while we contemplate our natural resources, but it need not blunt our sense of proportion. As one of the biggest countries on earth, we may need a share in the trade of vast regions of the globe where manufacturing will not be carried on for perhaps a century, as well as smaller nations, which

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are aiming by means of their shipping facilities to practically exclude us from such markets. The United States is almost as near the tropical and south temperate parts of Africa as Europe is, and yet, according to the latest estimates, has scarcely 5 per cent of its import trade.

And if our competitors who now do our freighting manage it so as to keep our manufactures from the best, because the newest, markets, while they import our excess of food products in order to feed their competing operatives cheaply, the result in time may not be gratifying to our pride. While we are thus swallowing the bait of a temporary prosperity, our wary competitors are intrenching themselves politically as well as commercially in regions which will take their goods for centuries, and, more and more as time goes by, furnish them with food in return, to the exclusion of the products now exported by us. This may sound strange to some, but this country (Senegal) even now abounds in cornfields as rank in growth as any which could be found in America; its swamps produce rice which, if cultivated extensively, would yield enough for exports on the largest scale; and beef animals are so abundant that sirloin steak is supplied at only 15 cents a pound.

We might easily gain and maintain a respectable footing in this great market, if we had well-appointed steamers under the American flag to bring our goods direct to it, and to receive such of the products of Africa as are wanted by our manufacturers in return. If this is done without an unnecessary loss of time, it may quickly change the value of our trade with these parts of Africa from 5 to 15 or 20 per cent of the whole; but if direct communication under the American flag is not soon established with Africa, there are many reasons for believing that we shall not in the future maintain even our present poor ratio of 5 per cent of the trade of a country almost three times the size of Europe, as easily accessible to us, and of probably far greater resources. I will here mention a few of the causes why, without steamers of our own, we shall probably not retain our present insignificant share of the traffic.

Europeans who are established politically as well as commercially in Africa generally commence their custom-house regulations by putting a small export tax on produce, which, as the burden comes alike to all, does not excite apprehension or comment in any quarter. Records are also kept of the movements of vessels, ostensibly for the purpose of acquiring statistics, but in reality the object is to get the coast line under the commercial control of the nations which establish the apparently harmless custom-houses. This is usually accomplished by the time fortifications are erected which command the seaports, and the natives who inhabit the coasts

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and seaports are brought first under military and then under complete civil control. A modest import duty of about 5 per cent on all goods arriving is then imposed; but as this is burdensome to none, it is also esteemed fair. A few years serve to confirm each nation in the rights it has claimed, and then the regulations are cautiously begun which exclude countries situated like the United States—with no ships of their own visiting the country, no merchants striving intelligently to open trade with it, and no consuls who are equipped to promote the interests of their compatriots—from their legitimate share in the trade. Extra duties are charged on goods not produced in the countries which claim the colonies, not at first to the point of prohibition, but capable of being extended in that way. The port charges for vessels are arranged so as to bear hard on all but steam lines, and so it happens that if an American sailing vessel should come here now, with a general cargo, she would be obliged to pay 1 franc (19.3 cents) a ton on her registered tonnage for the privilege of discharging it, while a steam liner from Europe would pay nothing.

The colonies in Africa are also, to an extent, being exploited by mercantile companies which have their principal places of business in the cities of Europe, and these companies are largely, in their very organization, inimical to American interests. One shareholder may be a soap manufacturer in Marseilles, interested that the factories of his company in the colony shall not buy American soap; another shareholder may be a cotton manufacturer in Flers or Manchester, and interested that the company shall not buy American cotton goods; and another may be a lumber merchant in Norway, interested that the company shall not deal in American lumber. Thus the governments, merchants, manufacturers, and shipowners of Europe are in accord on the subject of keeping Americans away from this richest of countries, the development of which they hope to enjoy for ages. Only a few years since (in the days of sail), Americans had the same right here commercially as others, and were not backward in exercising it. How is it then that they have so quickly lost all, or nearly all? In my opinion, it is simply because they have as a nation neglected their ocean carrying trade and allowed unsympathetic foreigners to attend to what should have been their own first business.

Previous to 1870, the west coast of Africa was connected with Europe, as well as with America, principally by sail, and as long as this state of things existed Americans held their own in Africa, and had perhaps, all things considered, their full share of its budding trade. The American flag was then never absent from the coast. American goods were known everywhere and liked, and fortunes

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were made by Americans doing business in this way. But the advent of steam has changed all this. The French Government first heavily subsidized the Messageries Maritimes Company, in order to have the large and fine steamers which ply fortnightly between Bordeaux and Brazil stop at Dakar. The Transport Maritime Line from Marseilles followed, its steamers also making fortnightly trips. Then came in quick succession the Chargeurs Reunis Line from Havre, the Fraissinat Line from Marseilles, and the Ligne Mixte. Cables were laid along the coast of Africa to facilitate the business of these government-assisted lines, and sail almost disappeared from the coast. The great Elder, Dempster Company, of Liverpool, England, also established a fortnightly service between Liverpool and this part of the coast, and the Woerman line of steamers from Hamburg kept the interests of the German merchants and manufacturers on as sure a footing as the others.

With all these first-class facilities for commerce, Americans, by sail and without subsidies, could of course not compete. So after keeping up a running fight for a few years with tobacco, petroleum, pitch-pine lumber, and a few other articles peculiarly American—until Europeans themselves began to bring the two former by steam in quantities as wanted—the American merchants were obliged to own themselves beaten, and one by one their vessels were withdrawn from the trade. Tens of thousands of tons of goods, with which Americans could successfully compete if they had steamers of their own, are being distributed here; but in the midst of all this activity, no one could tell from appearances that such a country as the United States exists. I see scores of European steamers coming and going, loading and discharging almost every week; but during a residence of more than twenty years in the country, I have never yet seen an American merchant steamer in African waters.

Here are railroads being built and equipped, millions of natives being clothed and otherwise provided with the appliances of civilization, wharves, bridges, and docks being constructed, and electric plants and appliances being introduced, while we are taking no part in the furnishing of all these things.

But it may be asked, If the trade of Africa is so desirable, why did not the American merchants who formerly did business here and used sail for transport organize steam lines like their European competitors for the continuation of their business? To answer this question it is only necessary to say that, as Americans have not thought themselves able to do it with the old countries on the east side of the Atlantic, nor with South America, how can it be expected that they should succeed in such an enterprise where the conditions would be more difficult? The 150,000,000 people in Africa do

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not need our bulky grain, nor our cotton, nor our animals, either slaughtered or on the hoof: but they do need our flour, our biscuits, our indian-corn meal, our cotton goods, our hams, preserved meats, fish, vegetables, boots and shoes, tools, machinery and locomotives, with hundreds of other things I need not mention, nearly all of which are now furnished by Europe, even though the country of their origin be the United States. What is needed is the means of getting our goods here under American control.

Many Americans may say that our country is at present enjoying very good times without African trade, but the letters and circulars mentioned at the commencement of this report make it evident that others are apprehensive that without a fairer chance in the world's markets their exceptionally good times may not last. The welfare of our manufacturers requires that good lines of steamers under the American flag should be established immediately between the United States, Africa, South America, and all other large countries where development is progressing, at whatever cost.

In order to connect the United States well with Africa (except the Barbary States and Egypt), there should be perhaps two lines of steamers, one to ply between some port in the northeastern States—presumably Boston—and the countries of Africa between Cape Verde and Loanda, taking in St. Vincent, in the Cape Verde Islands. The other line might start, say, from New York and take in the countries between Loanda and Zanzibar, including a port in Madagascar. The steamers of both these lines should be well equipped for mails and passengers, and subsidized to an extent which should lead to their immediate establishment and serve to maintain them against the competition of rival foreign lines, as nothing is more certain than that a determined effort would immediately be made to "run them off."

The first steamers should sail, I think, monthly, and stop at one port in each colony or country between Cape Verde and Loanda. There is no port of importance which can be entered by large steamers between Cape Verde and Morocco. The first port for the northern line to make, after leaving America, would be St. Vincent, which is important as a coaling station and is also an entrepôt for considerable commerce. The next port would be Gorée or Dakar; then Bathurst, Bissau, Konakry, Sierra Leone, Monrovia, Grand Bassam, and so on, one port in each colony to Loanda. Each steamer, in going and returning, would spend a little more than two months on the coast, and perhaps three months and a half in making a complete voyage. This would indicate perhaps six or seven steamers for the northern line, in order to insure monthly trips—a modest number, surely, when it is reflected that the Elder, Dempster

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Company, of Liverpool, alone has more than sixty steamers on its advertised list, which cover the same route.

The first steamers should be, I think, of 2,500 or 3,000 tons gross and capable of making at least 12 knots. There would immediately be a large amount of freight and some passengers for such a line of steamers, and both would increase after establishment in almost a geometrical ratio. All the American goods which now pass through Europe on their way here (going nearly 2,500 miles out of their course and paying about 25s., or $6.25, per ton extra) would be sent direct; and as soon as trade could be organized so as to profit by the new conditions, it is possible that the number of steamers would have to be increased and their sailings made more frequent. It is very likely that such a line of steamers would more than double the amount of American goods at present exported to this country and greatly increase the variety within a year.

But there is no question that without help from the Government no line of steamers under the American flag could exist on this coast. Since our necessary expenses would be greater, one could hardly exist if foreign steamers were not subsidized; and all the odds are allowed to be against our merchants and shipowners. And this brings us again to the question whether it is safe and best to make our own coast line our counter for our manufactured goods, or whether it is not vastly better to imitate our rivals in seeking out the consumer wherever he may be found, with all the means and appliances for giving him satisfaction wholly under our own control. The facilities will cost us something more than our competitors have to pay for theirs; but it is far better so than that we should trust customers 4,000 miles away to send us orders for goods on the strength of circulars printed in a language they do not understand.

It may not be amiss to adduce a few facts and figures which are said, above all other arguments, to be convincing. Africa is a country in which considerable leaf tobacco is used, because in a manufactured state its price puts it out of the reach of the natives. There are millions of people inland who consume more or less of it, so that the aggregate is large. The article was introduced by Americans in the days when commerce was carried on by sail, and it is one of the few products of our soil exported to Africa.

Leaf tobacco for this market is generally packed in casks weighing about 800 pounds net, and freighted here principally by steamers coming from Europe, which receive it by transshipment from the various trans-Atlantic lines; and Liverpool is a port through which a large part of it passes. Now, Liverpool lies in a direction northeasterly from New York, about 3,100 miles distant. Gorée-Dakar, in Africa, on the contrary, lies southeasterly from New York;

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the course hither leads a ship quickly out of fog and bad weather, and the distance is only about 200 miles greater than that from New York to Liverpool—*i. e.*, 3,300 miles. Gorée-Dakar lies in a southwesterly direction from Liverpool, and the distance between the two places is about 2,400 miles. The freight rate on the steamers from Liverpool and Gorée-Dakar varies according to the kind of merchandise, but it may be stated at 25s. (about $6.25) per ton of 40 cubic feet. The rate for cabin passengers is £18 10s., or about $90. The way casks of tobacco are measured, they seem to amount to about a ton each, and by the above figures it costs more than three-fourths of 1 cent a pound to get our tobacco from Liverpool to this port. Who loses the high freight rate, I shall not stop to discuss; but there is no question about who gains it. The figures respecting tobacco are true of all merchandise, except that in regard to other goods Europe is a competitor with us.

A line established from the United States would immediately have passengers to carry, both first class and steerage. Small American and Portuguese schooners now carry steerage passengers between New Bedford and Cape Verde Islands, and it is to be presumed there would be many such passengers between America and Liberia. For first-class passengers, there would be the missionaries, who now have to make the long circuit of 5,600 miles via Liverpool, and pay an extra £18 10s. for the chance to do it. Direct commerce would soon swell the number of people carried.

I should perhaps state that my opinion in regard to the desirability of direct steam communication has not been formed hastily, nor without ample personal experience in trade between the United States and Africa. As master and supercargo of sailing vessels, I spent fifteen years of the early part of my life in the African trade, which embraced some time before steam was introduced. Nothing that has been advanced in this report is mere theory. All has been worked out in the experience of the writer, who is influenced by the desire to give a comprehensive and final answer to those of his compatriots who apparently think that a flourishing trade can be built up in Africa without direct means of communication under American management. The time is past the world over when the consumer has to seek the producer, and unless Americans are willing to provide themselves with effective means of transport to foreign lands, they must expect to have their wares in a great measure neglected.

And without intending to discuss at all the ethics or the expediency of the system of protection, for the sake of consistency it really seems strange that our agricultural and manufacturing interests should be protected, while those which relate to our commerce abroad are allowed to shift for themselves.

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I hope that this report will be enlightening to those who have written me on the subject of business in Africa within the last few years, and to whom I have hitherto been unable to respond. American steamships carrying from our shores exports of manufactured goods and bringing back raw materials for the use of our manufacturers represent the key to the whole situation.

I should mention that I have taken pains to distribute circulars sent to me, but I am sure that they have been of little benefit. On one occasion only, I was asked to order an oil stove, worth with accessories about $18. The freight from Boston via Liverpool was $13, and it arrived in a damaged condition.

PETER STRICKLAND,
Consul.

GORÉE-DAKAR, *October 15, 1901.*

PERMITS FOR TRAVELERS TO SOUTH AFRICA.

Mr. White, secretary of embassy at London, sends, under date of December 6, 1901, copy of a notice received from the British Foreign Office in regard to permits for persons desiring to proceed to South Africa.

Lord Lansdowne, in forwarding the notice, calls attention to the fourth paragraph, which states that "subjects of foreign powers, who may wish to proceed to South Africa from ports in the United Kingdom, can obtain a permit on production of satisfactory evidence to the same effect from their respective embassies or legations in London."

The notice reads:

NOTICE.

In consequence of the establishment of martial law at all South African ports, it has been decided, with the concurrence of the governments of the Cape Colony and Natal, that on and after the 1st of January, 1902, permits will be required by every person proceeding to Cape Colony or Natal, to enable him (or her) to enter those colonies, and no person unprovided with such permit will be allowed by the authorities in South Africa to land in that country, except under special circumstances.

Application must be made in person at the permit office, 39 Victoria street, S. W., between the hours of 11 a. m. and 5 p. m., on and after the 2d of December, 1901, and should be made at least three weeks before the date of sailing. Permits will be issued with as little delay as possible, but the office can not guarantee their issue within a period of less than three weeks from the date of application.

Each applicant will be required to produce a certificate, signed by the agent general for the Cape Colony or Natal, a Member of Parliament, justice of peace, banker, parish priest or minister, or officer of His Majesty's forces, to the effect that he is in possession of at least £100 ($486) or is in a position to maintain himself on arrival in South Africa; that the object of his journey is bona fide; and that he has not been deported or sent out of that country as indigent.

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Subjects of foreign powers, who may wish to proceed to South Africa from ports in the United Kingdom, can obtain a permit on production of satisfactory evidence to the same effect from their respective embassies or legations in London.

Passengers from ports not in the United Kingdom must supply themselves with permits from the colonial secretary or some officer appointed by the colonial government in the case of colonial ports, or from the British consular officer at a foreign port of embarkation, who will satisfy himself, as far as possible, that the applicants fulfill the above conditions.

Members of a family proceeding to South Africa will be shown on the permit issued to its head, provided that a separate permit will be required for each son or daughter over 16 years of age.

It should be clearly understood that these permits are available only to enable passengers to land in South Africa, and are no guaranty that they will be allowed to proceed inland. Those who wish to do so must apply for permits at the port of disembarkation. The latter are warned that there are still thousands of persons waiting at the coast ports for an opportunity to return to their homes, who will probably have precedence over later arrivals.

OPENING FOR CAPITAL IN NEW SOUTH WALES.

The new federated tariff which came into effect October 8* is in many instances prohibitory in rates, which will result in a decrease of importations. However, this means an excellent opening for American capital. Many lines of goods may be manufactured here, and the people admit that American articles in certain lines are superior to any others. For instance, the better classes wear only American shoes, and while leather goods of all kinds are used here, there is a preference for our makes.

Glassware and crockery may be manufactured here cheaply, while iron and steel are abundant, and the great deposits of ore are close to the coal fields. Materials for soap and candles are at hand, match factories would find a ready sale for their products, all classes of woolen goods could be produced at low rates, and it would pay to make gloves and hats along American lines. There is a large sale for washing machines, clothes wringers, and various laundry apparatus. A few agricultural implements are manufactured here, but there is a good demand for American mowing machines, reapers, and binders. A factory making these machines would do well. There is no nail factory here; hence large quantities are imported from other countries. A rolling mill equipped to manufacture iron articles, from railroad iron or steel and bridge beams to kettles, would control the trade of this country, as well as that of the South Sea Islands. Materials for the manufacture of all kinds of paints are easily procured at a very small cost. Magnificent woods, susceptible of a

*See ADVANCE SHEETS No. 1201 (November 29, 1901).

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high degree of polish, are plentiful. With a heavy tariff on paper, a modern mill would do well. Much paper is used, especially the cheaper sorts, such as wrapping and news paper. Such a thing as a modern paper bag, with corners folded, I have never seen in these colonies.

There are many other classes of goods not manufactured in these States which could be made by American methods and pay a good percentage on the capital invested. The climate is nearly perfect and the people intelligent.

F. W. GODING,
Consul.

NEWCASTLE, *October 30, 1901.*

MINERAL WEALTH OF BRITISH INDIA.

The following is a summary of statements in the Mineral Production of India, issued by the director-general of statistics, October 17, 1901:

SALT.

The quantity of salt produced in India approximates 1,000,000 tons annually, but there are variations from year to year, the result of seasonal causes at Sambhar Lake. In northern India, the principal source of supply exists in salt lakes and wells in Rajputana and in the rock salt of the Punjab salt range. In Bombay and Sind, Madras, and Lower Burma, salt is manufactured from sea water along the coast; in Upper Burma there are also some fine wells from which salt is made. At Aden salt is made from sea water, and most of the salt is exported to Calcutta.

The cost of internal transport is still so high, and the conditions under which salt is carried to India from Liverpool and elsewhere are so favorable, that the Indian demand for salt can not be met in some tracts from local sources at a moderate price, and in these places there is a considerable importation of salt, chiefly from Liverpool, Hamburg, Aden, and the Egyptian ports of the Red Sea. The imports are brought to Bengal and Burma, which are the only importing provinces. The quantity imported has been, on the average of the last five years, 398,000 tons, supplementing the 1,000,000 tons produced.

SALTPETER.

This article, which is largely produced for export, was in former years of much greater importance than now, the decline in its employment for gunpowder and the preservation of food having led to a restriction of production. It is most largely produced in Behar, whence it is sent to Calcutta for export after refinement. The average production is stated to amount to only about 251,000 cwts., of which 209,000 cwts. are reported to have been made in Bengal—that is, in Behar. But it is clear that the production is grossly understated, for the average annual exports of saltpeter from Calcutta in the last five years have amounted to as much as 404,378 cwts.

COAL.

This industry is expanding so rapidly from year to year that a statement of the average production over a series of years would not convey a true idea of the conditions. The output has increased from 3,540,000 tons in 1895 to 6,118,000 tons in

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1900. Coal of varying quality is found over a very extensive area of the Indian region. At present, the principal mines are located in the Ranigunge district, in Bengal; at Singarini, in the Nizam's territory; in the Lakimpur district, in Upper Assam; at Mohpani and Warora, in the central provinces; and at Umaria, in the central Indian agency. Indian coal is now extensively—in some places exclusively—employed for the railways, coasting and river steamers, and mills and factories; but, as in the case of salt, the conditions of transport are not sufficiently developed, though they are being greatly improved, to permit the exclusive use of Indian coal for industrial purposes. The quantity of Indian coal used in India is therefore supplemented by an importation which has averaged 333,000 tons annually in the last five years. Imported coal is mostly landed in Bombay, the mills there requiring large quantities of fuel, and being too remote from the Indian source of supply to find the Indian coal economical; and in view of the easy conditions on which steamers carry coal to India as freight, foreign coal is used. Most of the imported coal is English, a small quantity being received from Japan.

IRON.

The production of iron is as yet quite in its infancy, the ore being worked for the most part only in the Ranigunge district of Bengal, where it occurs in close proximity to the coal fields.

According to the figures—which, however, are of doubtful accuracy—the production in 1900 amounted to 63,000 tons, of which 57,000 tons were produced in Ranigunge. For the adequate utilization of the iron ores in Bengal and other parts of India, the application of very large capital is necessary for the manufacture of wrought iron and steel in the forms in which these metals are mainly used in India, and the prospects of such an enterprise do not seem sufficiently decided to induce capitalists at present to venture on the sinking of the great sums required for work on the scale which alone would be remunerative.

GOLD.

Gold is produced mostly in the mines in Mysore, where the annual output now exceeds 500,000 ounces. From the mines in the Nizam's territory, only a small quantity has been extracted as yet. No account is taken of the gold produced in parts of northern India from the washings of river sands; there are no means of stating the quantity statistically, but it is well known that it is entirely insignificant.

The aggregate reported production is 513,266 ounces, the value of which may be taken to represent about $10,000,000.

PETROLEUM.

The production, which is confined to Burma and Assam, amounted to 38,000,000 gallons in 1900, about 37,000,000 gallons being of Burman production. Although the production has expanded very largely, it is still insufficient for the requirements of the Indian market, which are met by the importation of some 72,000,000 gallons from the United States and Russia. It may be said that, roughly, of every 100 gallons of petroleum used in India one-third is of local production, two-thirds being imported.

OTHER MINERALS.

These are relatively of small economic importance. In the case of "gems and semiprecious stones," the most prominent are the rubies and jade of Upper Burma. Among other descriptions of minerals, manganese ore, mica, and tin ore are alone of commercial importance. The production of manganese commenced a few years

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ago, the product being shipped to England. The extraction of mica has been an industry in Bengal for a considerable period, and recently this mineral has been produced in Madras in some quantity. The mining has been carried on for many years by the Chinese in Lower Burma, but their operations have not indicated any tendency to expand.

R. F. PATTERSON,
Consul-General.

CALCUTTA, *October 24, 1901.*

CROP PROSPECTS OF WESTERN INDIA.

The general crop prospects of western India are not altogether satisfactory. Rain is still badly needed. Over wide areas in both the Punjab and Rajputana, the nonirrigated crops have completely failed.

In the Punjab, irrigated crops promise a 50 per cent yield; unirrigated, nil. The disquieting signals which heralded the advent of the last great famine in Rajputana are again raised, and the tide of immigration is setting strongly toward Sind.

The Bombay presidency has benefited from a moderate rain which recently fell in the southern part.

The need for rain, however, is very great in Gujarat, the Dekkan, Baroda, and Rajkot, for standing crops or for spring cultivation.

Madras reports that the harvesting of the autumn crops is in progress, with a fair outturn. Water supplies are sufficient for cultivation.

The situation is less favorable in the central provinces, where the absence of rain has caused damage to the late rice on nonirrigated fields, while other autumn crops, especially juar (Indian millet), are withering on light lands.

In the northwest provinces, the autumn crops are in good condition and prospects are very favorable, though more rain would be appreciated in some districts.

An unpleasant feature in the situation is a slight rise in the number of persons on relief in the native states, confined to Bombay and Baroda, being the remains of the Government relief works of the late famine. The total number in receipt of State aid is yet 182,614.

WM. THOS. FEE,
Consul.

BOMBAY, *November 7, 1901.*

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TRADE AND ECONOMIC CONDITIONS IN SWATOW.

The following is a report of a tour of inspection of the Swatow district, China, recently made by an officer of the United States Navy:

It is exceedingly desirable that commercial relations with the country of which Swatow is the port of entry be established, for the following reasons:

(1) There is a steadily increasing demand in Swatow and the cities in this prefecture for foreign goods, brought about by the contact of the Chinese with foreigners, and by Chinese seeing and appreciating the superiority of foreign over domestic goods of the same class. Many articles of foreign manufacture and production have already been introduced and accepted by the Chinese, and many more could be were their usefulness brought home by example. Of goods which have been introduced, those from countries other than our own are inferior, in many cases, to those which could be placed in the market by our own manufacturers at the same or slightly advanced prices.

(2) Of all foreign goods, those from America are looked upon with most favor, partly on account of the superiority of the goods themselves, and partly on account of the favor with which Americans are regarded throughout the province; and, other things being equal, they command a readier sale. In the majority of cases, a slightly increased price, even, over the prices of the same articles produced by other countries does not affect the demand for these goods. So marked has become the demand for our goods that in many cases, the supply not being equal to the demand, articles from other countries pass as American that they may have the readier sale. For example, in Chao Chow Foo and Kieh Yeng, many German clocks are sold, and without exception pass as American.

(3) The port of Swatow is the port of entry for practically the entire eastern part of the province, a great part of the trade of the eighteen millions of Hak-kà-speaking people, and the entire trade of the five millions of Tie-Chieu-speaking people, passing through this port. This province is one of the richest in the Chinese Empire, and the trade is on the steady increase—a fact that is appreciated by the foreigners at present engaged in commercial relations with Swatow, as may be seen by the fact that within the coming six months it is the intention of the German firms to practically double the number of ships flying the German flag, by having the ships of that country at present trading with the East Indies extend their lines to Swatow. Both the English and the German firms

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in this port are jealous lest some other country also establish commercial relations here; but, realizing that it is only a question of time until this happens, they are trying to obtain as much as possible of the trade before it takes place.

(4) The port of Swatow is to become the terminus of, or one of the principal points on, the railroad that is inevitable throughout this region.

Were American ships flying the American flag to once more enter this port, as they formerly did, the prestige of America and Americans would be materially increased. At present, the Chinese can not believe that a country whose flag is never seen in their port is of any importance. One of the old men, who remembered the time when fourteen or sixteen sail of our ships was no uncommon sight in this port, asked why the "Flowery Starry Flag" was never seen now. Nor was there any explanation.

MEANS OF DEVELOPING TRADE RELATIONS.

As to conditions which might improve trade relations, I would mention the following:

(1) A large general store to be opened in Swatow, with branch stores in Chao Chow Foo, Kieh Yeng, and Chow Yang, with an American resident manager and one or more American clerks in Swatow, and a large force of Chinese clerks or compradores in Swatow and in those cities where branch stores have been established; the store to be stocked with goods which are now in demand among the Chinese and with those which time would show to be the most acceptable, care being taken that every article with which the people are not familiar be fully explained, both as to its use and the attention that should be given to it. Several things—among them bicycles—have been sold to the Chinese without the proper direction, with the result that they have soon become a total loss to the buyer. A knowledge of the local dialect should be one of the requirements of the American clerks, that they might deal directly with the buyers without the medium of a native clerk. All goods should have a distinctively Chinese name plainly marked on them, that they might be recognized by the Chinese. This is imperative, that the genuine may be distinguished from the counterfeit, of which there are many, by the people themselves. This plan is now being carried out on many goods from other countries. There are many counterfeits in circulation, one of which is the Japanese copy of the Eagle brand of condensed milk. This imitation, which is a most worthless article, can not be told from the genuine by the Chinese, who see only the eagle on the outside of the can. Were a cold-storage plant run in connection with this store, large quantities of American pork could

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be exported and readily sold, the demand for the commodity being great and the price proportionately high. Were a lumber mill run in connection with the store, timber and lumber could be introduced. There is a great demand for timber of all kinds, on account of the extreme scarcity of wood in this province. The refuse of the mill could be sold for fuel, both as wood and as charcoal, there being a great demand for this also.

The necessary land for this store could be obtained, with water frontage. Piers would have to be built sufficiently long for steamers to come alongside and discharge. This has been done by all the other firms having water frontage. The sole inconvenience would be the mud which is brought down by the branch of the Han River, which flows into the harbor along this frontage. As most of this land fronts to the west, the steamers would be protected from the winds to the east of south, which are the most violent. This land is now occupied by Chinese houses and stores and by the godowns of the steam-launch company. The water-front property is eagerly sought by the German shipping firms of Swatow.

(2) At the present time, the Chinese lose an unnecessarily large percentage of their sugar through imperfect crushing of the cane. It is estimated that in many cases this loss amounts to from 10 to 15 per cent. Were sugar crushers introduced and their use explained, the gain to the cane growers would be marked and the demand for the crushers proportionately large. With crushers established at various points along the water ways, more could be paid to the grower for his crop than he now gets for his sugar, and a profit would still be left to the owner of the crusher. The crushed cane could also be disposed of for a trifle to the grower, to be used as fuel.

That a railroad will one day connect the large and important cities of the prefecture with Swatow seems inevitable, though when this will become an established fact is a matter of conjecture. The matter has been projected by the Imperial Government, but up to the present all attempts to construct one have proved abortive.

The wealthy Chinese will not put money into any scheme or design of the Chinese officials, knowing as they do that a greater part of any money so placed will find its way into the pockets of these same officials, instead of into the projected scheme. They would support the scheme were it to be carried out by a foreigner; but it would then receive the opposition of the officials throughout the region, who would oppose it on the ground that the foreigners would secure too great influence by its construction. If the railroad itself must be built by the Chinese, so also the rails must be made by them. Iron there is in plenty, and from this there could be

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made rails sufficiently strong for the slight traffic; but the Chinese desire steel rails—an impossibility, for the supply of phosphorus is entirely inadequate to such a demand. A road has already been surveyed by the Chinese officials from Chao Chow Foo, the prefectural city, to Tua-Kà, and by the compradore of Jardine, Matheson & Co. from Swatow to Phau-Thai. These surveys have been roughly performed, and there are no plans or drawings to show for the work. The reason why a railroad should have been surveyed from the prefectural city to Tua-Kà or from Swatow to Phau-Thai is not apparent, unless the ultimate idea was to connect Chao Chow Foo with Swatow, neither of the other places mentioned being of sufficient importance to become the terminus of a railroad.

SOCIAL CONDITIONS.

The basis of all Chinese society is the family. A man, liking a certain locality, settles there, buys a wife, builds a house, and brings up his family. As soon as a son is old enough to marry, he buys a wife, and the newly married couple live in a room built on the parent's house. Soon this house becomes too crowded to admit of any more additions, and houses spring up around it. Thus, in time, a village is formed. The members of one family may not all stay in the same locality, but move to some place near by and establish another village. In this way, in the course of generations, a cluster of villages is formed, the members of which are all the descendants of one man and bear the same family name. To these may be allied other villages, the descendants of another man, but who are brought to associate with the others for protection, for commercial reasons, or who simply enter into an alliance, offensive and defensive, marrying and intermarrying. In this way is formed the clan. These clans are controlled by elders or headmen, who, either by selection or by preeminent ability, have attained the control of affairs. These men wield enormous power, for they control the public moneys of the clan, hire lawyers, conduct lawsuits, decide as to peace and war with their neighbors, and in petty cases punish offenders without bringing the case before the magistrate, their judicial superior. In many cases, these public moneys of the clan are of considerable amount, coming as they do from the rental of the tribal lands for cultivation. In case a man's lineal descendants die out, his property reverts to the clan, and in the course of hundreds of years this property so obtained becomes of considerable extent. As an example of the amount of money controlled by these elders, the Ur clan in Jao Peng recently fought for six months, and the only assessment was 13 cents per man, the rest of the expenses being paid from the tribal fund. The money raised from the clan property is expended

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principally for the purchase of arms and ammunition, and for hiring soldiers in case of war. These soldiers are men of but little property who adopt fighting as a profession, hiring themselves out to any clan for a small stipend and their food, after having made an agreement that in case they are killed their families shall receive a sum of money—about $100—and that they shall be sent home for burial.

These clan fights are the curse of the Chao prefecture, and, indeed, of the whole province. They start from the most trivial causes, of which the following are a few of many: Two men met in a village, and, after they had saluted each other, one took exception to the other being a native of a certain village. From this started a fight involving hundreds of men. In Jao Peng, the Ur-Chang fight was brought about by two men of the Chang clan, who had been out to catch frogs, passing naked, at night, through the village of one of the branches of the Ur clan. This brought on a fight where one clan numbered about 20,000 and the other about 16,000. Another fight, in which the amount of damage done was over $10,000, started in a row over 2 cash (0.0028 cent) in a gambling house.

Many years ago, these fights became of such alarming proportions that Admiral Fang was sent to this region with soldiers to end them. Being a man of great ability, he made forced marches by night, appeared when the people least expected him, burned villages and tortured to death men without number. In a very short time he had put a stop to the fighting. As long as he lived, and for several years after his death, the people kept the peace, such was the terror of his name. Of late, however, these fights have been increasing to such an extent, and have so interfered with business, that the foreign merchants and the members of the shipping firms in Swatow have sent a memorial to the doyen of the consular corps in Swatow that he request the viceroy to put an end to the fighting. In many cases, the local magistrates are helpless or are hampered with other duties. For example, with fights raging in all parts of the prefecture, the military examinations, at which the presence of the district magisrates is compulsory, are now being held and have been for over a month.

The usual method of stopping these fights is for the magistrate to send out two or three constables to inquire into the matter and report on the state of affairs. Then, if the fighting be serious, a few tens of soldiers are sent there, who in no way interfere with the fighters, but quarter themselves on the villagers until, tired of their presence, the fighters stop. A board of arbitration is then appointed by the magistrate, which estimates the number of men killed on each

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side and the amount of property destroyed. Both sides then pay a certain amount in proportion to the damage done. Sometimes the magistrate comes in person, but even his presence does not have the desired effect. In 1891, at Chai Yang, in the Hak-kà country, a district magistrate, proceeding to settle one of these fights, was set upon by the fighters, his escort scattered, and his chair destroyed, he himself barely escaping with his life. The taotai sent 500 soldiers, who scattered the fighters, many of them going abroad. Eight of the headmen of the villages were put to death, five by crucifixion and three by torture.

In connection with these clan fights comes up the question of smuggling of arms. The majority of the weapons used by the fighters are the two-men muzzle-loaders, one man acting as a rest and the other firing the piece, the damage in lives lost being comparatively small. Recently, however, many arms have been smuggled into the prefecture from Canton and from Hongkong. Those from Canton come overland into the Hak-kà country and into the Kieh Yeng district of this prefecture. The majority, which come from Hongkong, are brought up in small junks, whose size enables them the more easily to escape detection, and are sold to the elders of the villages and clans for from $4 to $20 apiece. The elders in turn sell them to the clan for from $4 to $6 advance. The introduction of these weapons has increased the death rate in the clan fights to an alarming extent, the death rate in the Jao Peng fight having been increased to an average of eight a day, and in the Chow Yang fight to ten and twelve a day. It is in these two districts that most of the arms are landed.

These clan fights are a serious detriment to the commercial relations, nor can there be said to be any social conditions which will improve them.

TRADE.

The total amount of foreign trade for the year 1900 amounted to 17,000,000 haikwan taels* ($12,251,900), of which 12,700,000 taels ($9,152,890) were imports and 4,300,000 taels ($3,099,010) were exports.

Cotton.—Chief among the imports are cotton goods, the total value of which was 4,070,000 taels ($2,933,249), 2,750,000 taels ($1,981,925) of which represent the value of 45,000 bales of cotton yarn. In cotton yarn, the Indian product naturally leads the way on account of its cheapness; the quantity of this yarn imported being 110,972 piculs (14,772,933 pounds), at a total value of 252,205 taels ($181,764), against 21,450 piculs (2,860,000 pounds) of English yarn, valued

*The average value of the haikwan tael in 1900 was 72.07 cents.

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at 475,389 taels ($341,612), and 1,221 piculs (162,800 pounds) of Japanese yarn, valued at 26,900 taels ($19,387). This yarn is chiefly for the mills in Hsing Ning and the handlooms which give occupation to the poor women and girls in the villages around Chow Yang. During the year 1900, the market price of cotton yarn ranged from $80 to $100 per bale.

Of the other cotton goods, the following are the principal imports:

Article.	Quantity.	Value.	
	Pieces.	*Taels.*	
Italian cloth, plain and figured	1,580	20,612	$14,855
Shirtings:			
White	217,066	744,223	536,362
Gray	91,989	251,204	181,042
T cloths	28,665	56,060	40,452
Raw Indian cotton	4,050	63,567	45,813
Drills:			
American	1,228	5,098	3,674
English	1,038	5,542	3,994
Jeans:			
American	525	2,112	1,522
English	2,376	12,599	9,080
Sheetings:			
American	1,020	3,039	2,190
Japanese	500	1,514	1,091
Turkey-red cotton	6,285	13,590	9,794
Cotton italians	1,957	14,069	10,140
Velvets	2,013	17,790	12,821
Japanese cotton crape	12,419	9,412	6,781

Woolens.—Woolens are but little used, practically the only import being 1,128 pairs of woolen blankets, valued at 5,629 taels ($4,057).

Metals.—But few metals were imported, and those only in small quantities—old iron, such as worn-out cart tires, horseshoes, etc. Of old iron, 33,890 piculs (4,518,666 pounds), valued at 62,389 taels ($44,964), were imported. Of the imports, the following are the principal:

Article.	Quantity.	Value.	
	Piculs.	*Taels.*	
Nail-rod iron	4,772	13,497	$9,727
Iron nails	3,568	17,126	12,343
Tin:			
In slabs	11,967	577,521	416,219
Plates	1,032	53,401	38,486
Lead	2,969	18,332	13,212
Old copper	158	1,880	1,355
Brass wire	112	3,959	2,853
Steel	729	3,860	2,782

The imported tin is used in making tins for oil and in the manufacture of the celebrated Swatow pewter ware.

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Oil.—Oil is imported in large quantities from America, Russia, and Sumatra. The following are the imports of the three oils:

Description.	Quantity.	Value.	
	Gallons.	*Taels.*	
American kerosene oil	380,000	62,580	$45,101
Russian oil	600,000	106,500	76,755
In bulk	937,504	136,606	96,290
Sumatra oil	200,000	27,800	20,035
In bulk	2,683,764	374,530	269,924

The price of oil is going down steadily on account of the competition, and Russian oil is gradually being forced out of the market. With the heavy freight and canal dues, it is impossible for this oil to compete with the cheaper Sumatra and Borneo oils. This oil is brought to Swatow in tank steamers, and is sold either tinned or in bulk to the retail merchants.

Flour.—All of the imported flour is American, from the Sperry mills, and is imported in bags of 50 pounds. The total amount imported during the past year was 99,176 piculs (13,223,466 pounds), valued at 391,403 taels ($282,084). Though this flour is 10 per cent dearer than the native product, it is prized by the Chinese on account of its fineness, color, and freedom from grit, and commands a ready sale. The retail price is from $1.80, at which most of the flour is sold, to $2.08, and even $2.15, per bag of 50 pounds. Very little of the flour is sold at the last-named prices.

Coal.—Coal is imported from Japan and from Tonkin. The Japanese coal, of which 38,612 tons, valued at 143,660 taels ($103,535), were imported, is for the use of the merchant steamers and for small retail purposes. The Tonkin coal, nearly all of which comes as coal dust, is used in the manufacture of lime, a product produced everywhere throughout this region. Of this coal, 17,085 tons, valued at 53,576 taels ($38,612), were imported.

Opium.—Two qualities of opium were imported. Of the better quality, Malwa opium, 2,455.66 piculs, valued at 1,797,374 taels ($1,295,367), and of the second quality, Patna opium, 1,887 piculs, valued at 1,250,194 taels ($901,015), were imported.

Cards.—One hundred thousand packs of playing cards, valued at 3,000 taels ($2,162), were introduced. These are used by the Chinese in playing a mild form of poker.

Clocks.—Of clocks and watches, 3,550, valued at 6,994 taels ($5,041), were imported. Practically all of these were of German make.

Mirrors.—Looking-glasses and mirrors to the number of 395,419,

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valued at 10,407 taels ($7,500), were imported. Nearly all of these were small hand glasses.

Snuff.—One hundred and eight piculs of American snuff, valued at 27,001 taels ($19,469), were imported. This snuff is especially prized by the Chinese for being slightly oily, their criterion of good snuff. The retail price of this is from $2.50 to $5 an ounce.

Miscellaneous.—The following is a list of the chief remaining imports from foreign countries:

Article.	Quantity.	Value.	
		Taels.	
Coarse palm-leaf fans.....pieces...	1,250,250	9,553	$6,885
Beans and pease.....piculs...	6,438	15,813	11,396
Bicho de mar.....do.....	1,397	34,855	25,120
Cigars and cigarettes.....do.....	.....	3,820	2,733
American ginseng.....catties...	9,820	76,409	55,068
Glue .....piculs...	5,505	48,576	35,009
Raw hemp.....do.....	3,694	78,640	56,676
Lamp wicks.....packages...	32,385	7,864	5,671
Purses and pouches.....pieces...	92,845	4,728	3,407
Matches .....gross...	743,300	202,662	146,059
Medicine .....piculs...	10,701	92,525	66,683
Perfumery .....value...	.....	3,819	2,752
Rice.....piculs...	72,520	181,202	130,592
Silk piece goods.....catties...	25,397	184,898	133,256
Silk thread.....piculs...	38	14,252	10,271
Tobacco .....do.....	4,266	31,028	22,362

The demand for perfumery is rapidly increasing, and the article commands rather high prices. The two kinds of perfumery most in evidence are the French perfumes of Ed. Pinaud and the American perfumes of Colgate. Nearly all of this perfumery comes in small bottles, up to 4 ounces, a bottle containing 2 ounces selling for $1.50.

During the last year 47,392 lamps, valued at 11,678 taels ($8,416), were imported, nearly all of which are of German make, though they pass as American. The American lamps are much prized by the Chinese on account of their superior quality, and sell for from $16 a pair for the best imported American lamps to $5, $6, and $7 a pair for the medium variety. There is a greater demand for the last-named variety than for any other. Cheap nickel lamps sell for $3 a pair.

White cotton socks are being introduced from Hongkong, and are finding an increasing sale. The better quality sell for from $3 to $5 a dozen pairs; the other qualities, for from $2 to $3 a dozen pairs. More of the cheap socks are sold than of the dearer varieties.

Japanese towels, to the extent of 31,748 dozen, valued at 9,432

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taels ($6,798), were imported. These are very small and flimsy, and are used by the Chinese for wash cloths.

German handkerchiefs are gradually entering the market, more being sold to the Chinese than to foreigners. They sell for from $2.25, $2, and $1.80 a dozen for the better varieties to 40 cents a dozen for the cheaper varieties.

Condensed milk is in great demand among the Chinese. The trade is confined to two brands only, the Eagle brand and the Milkmaid brand. The selling price is $9.15 for a box of 4 dozen, or 22 cents a can for the Milkmaid brand and 40 cents a can for the Eagle brand. Of the two, about twenty times as much of the former is sold, the market for the latter having been ruined by the worthless imitation placed in the market by the Japanese.

Large quantities of cheap cotton umbrellas are imported from Japan.

Lumber.—Lumber is imported in small quantities, but the market could be much improved were it possible to obtain the wood. The demand is much greater than the supply and the prices in the local market are proportionately high. The principal imported woods are as follows:

(1) Oily T'sau wood from Singapore. This comes, according to order, in lengths of from 20 to 50 feet, plank or timber. No two pieces of this wood are the same, it being sometimes brash and at other times hard. It is used principally for sills and roof timbers. It is also used for shaft poles for mandarin chairs. It sells for $1.40 per square foot.

(2) Dry T'sau wood comes as does the oily T'sau, and is subject to the same defects. It is used principally for joints, and sells for $1.20 per square foot in the market.

(3) Fuchau pine is imported as timber, 20 feet long and 1 foot thick at the butt. A stick of this size brings $8. For every additional inch in circumference, the price is increased 50 cents, and for every inch under 1 foot 50 cents is deducted. It is used in house building.

(4) Fragrant Formosa camphor wood comes as timber, 9 feet by 18 inches by 7 inches, with holes in both ends, so that when these are removed the length of the stick is about 7 feet. A stick of the above-mentioned dimensions sells for $16, when it is obtainable. It is used for making tables, wardrobes, chests, etc. Nearly all of this wood received is knotty, the best pieces having been chosen in Amoy, Hongkong, and Canton.

(5) Siamese Ka Lung Je wood is extremely hard and is used in any place where such wood is required, as in the rudder posts of junks. The usual length of this timber is 20 feet, though the stick

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is sometimes sawed in half. It runs up to 1 foot in diameter and is very expensive.

(6) Singapore pine comes as timber 16 feet by 8 inches by 2½ inches, and brings $1.43 per cubic foot in the market.

(7) Siamese red wood is used for the finest furniture. It comes as timber under 10 feet in length and up to 2 feet in diameter. Out of 100 catties (131 pounds) of this wood received, about 50 catties (77.2 pounds) are fit for use. The selling price of this wood is $8 per cubic foot.

(8) Formosa sandalwood comes in timber 8 feet by 2 feet by 8 inches. A piece of the above dimensions sells for $40.

(9) Siamese blackwood comes in very small pieces—the size of a man's fist—and brings about $8 per picul (133⅓ pounds) in the rough. It is used for carving and for knobs of all kinds.

(10) Siamese teak comes as timber up to 70 feet or 80 feet long. It is used for furniture and for carving. It sells for from $2.50 to $4 per cubic foot.

There is a little native camphor wood in the country, which comes from Chang Lok, in the Hak-kà region, and is used for making boxes, chests, and knees for junks. It is usually in crooked timber from 10 feet to 20 feet long and from 1 foot to 2 feet in diameter. A stick 10 feet long by 1 foot in diameter sells for $20. Small sticks sell for from $5 to $6.

FOREIGN BUSINESS FIRMS.

The majority of the foreigners now resident in this section of the provinces are citizens of the four great powers—Great Britain, the United States, France, and Germany.

The following is a list of the business firms at present doing business in Swatow, with a general description of their business, and a list of the ships which enter and clear consigned to them:

Jardine, Matheson & Co. are general shipping agents, both for exports and imports. Their principal cargoes are sugar outward, and opium, beans, bean cake, and rice inward. They are agents for the Indo China Steamship Company and for Douglas, Lapraik & Co. They have one pier and extensive godowns. They own a large sugar mill in Kah Chieh, across from Swatow, into which they have put $250,000 Mexican ($119,000), but which has not been running for fifteen years and is considered a total loss. There have been rumors that they contemplated converting this mill into a factory for arms and ammunition, but there is great opposition to the idea and the mill remains abandoned. The compradore of this company, Siau-Ah-Kim, is the chief owner of the above-mentioned launch line, owns the largest native bank in Swatow, and farms the internal revenue of the Kieh Yeng district. He is considered the most

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prominent business man in Swatow. The following is the list of the steamers accredited to Jardine, Matheson & Co.:

Steamer.	Length.	Breadth.	Depth.	Tonnage.
Indo China Steam Navigation Company.	*Feet.*	*Feet.*	*Feet.*	*Tons.*
Taksang	250	36.1	15.3	1,562
Wosang	250	36.1	21.5	1,659
Lienshing	250.2	36.2	16.1	1,753
Esang *				
Yuensang	250.2	36.2	16.1	1,753
Chysang	260.4	35	18.1	1,880
Taisang	290	40	23.9	2,383
Kwongsang	240.4	32.3	17	1,512
Loksang	250	36.1	15.6	1,560
Canton	394.4	42.1	26.5	3,317
Pechili	239.2	33.1	12.6	1,160
Kutsang	296	39.2	19.5	2,311
Yiksang	230	33	15.9	1,378
Focksang	250	35.4	22.3	1,557
Eldoredo	331.8	42.6	22.6	3,531
Amara	289.5	14.3	16.8	2,454
Chunsang	290	40.3	16.2	2,218
Fansang	290	40	15.6	2,251
Kingsing	260.8	38.2	15	1,983
Suisang	309.9	41.1	17.2	2,790
Wingsang	290.5	40.2	24	2,339
Mansang	275.6	37.6	18.5	2,161
Huisang *				
Onsang*				
Loongsang *				
Douglas, Lapraik & Co.				
Formosa	385	45.2	18	4,445
Hailoong	230	33.2	13.2	1,253
Haitan	275	35	24	1,856
Haimun	239.7	35.6	17.8	1,311
Haiching	280.9	38.2	16.9	2,080
Thales	231	31.4	23	1,199

* Not entered at Lloyd's.

Butterfield & Swire are general shipping agents. They originally conducted their business through Bradley & Co., as agents, but have since established themselves in Swatow. They have the largest water frontage and most extensive godowns of any firm in the city. They are agents for the China Navigation Company and for the Norddeutscher Lloyd. They do the largest business in rice, bean cake, and sugar in this port. They are coolie agents for foreign ports. The resident manager is Mr. Stuart Smith. The following is a list of the vessels accredited to Butterfield & Swire:

Steamer.	Length.	Breadth.	Depth.	Tonnage.
China Navigation Company.	*Feet.*	*Feet.*	*Feet.*	*Tons.*
Hangchow	259.7	33.1	23	1,572
Tamsui	250.2	31.3	23.1	1,424
Kaifong	256.3	36.3	21.6	1,643
Kweiyang	255	36.1	21.8	1,715
Chungkiang	244.3	32.4	20.1	1,258

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Steamer.	Length.	Breadth.	Depth.	Tonnage.
China Navigation Company—Continued.	*Feet.*	*Feet.*	*Feet.*	*Tons.*
Wuchang	244.3	32.4	20.1	1,258
Whampoa	271.3	34.4	23.6	1,734
Woosung	271.3	34.4	23.6	1,734
Singan	256.3	36.2	21.5	1,663
Taiwan	271.3	34.4	23.6	1,734
Nanchang	255	36.1	21.8	1,715
Kweilin	260	36.8	21.6	1,765
Paoling	260	36.8	21.6	1,765
Shantung	304	41.1	19.1	2,807
Chefoo	233.6	27.3	22.1	1,087
Sungkiang	256.3	36.3	21.4	1,658
Newchang *				
Weuchew	220.1	28.5	18.8	898
Haihow	248.0	31.3	23.2	1,411
Pakhoi	274.8	38.2	21.4	2,023
Hunan	260	38.1	21.3	1,885
Kashing	249.5	38.1	21.3	1,895
Kansu	259.5	38.1	21.3	1,895
Szechuen	260.7	38.1	21.3	1,885
Kalgan	260.7	38.1	21.3	1,885
Chihli	260.7	38.1	21.3	1,885
Wuhu	275.1	38.2	21.4	2,026
Tientsin	380	45.3	27.4	3,950
Foochow	275.6	38.2	21.4	2,030
Shangking	260	38.2	17.5	1,650
Tingchow	256.3	34.2	20.4	1,502
Changsha	315.2	38.2	23.8	2,269
Chingtu	315.2	38.2	23.8	2,269
Taiyuan	315.2	38.2	23.8	2,269
Tsinan	315.2	38.2	23.8	2,269
Chinkiang	275.5	38.2	21.4	2,004
Ichang	275.5	38.2	21.4	2,002
Kinkiang	275.5	38.2	21.4	2,002
Kwangse	275.5	38.2	21.4	2,002
Ningpo	275.5	38.2	21.4	2,002
Shansi	275.5	38.2	21.4	2,002
North German Lloyd.				
Kang Beng	240.2	34.1	22.8	1,359
Mongkut	240.3	34.1	22.8	1,354
Taichow	240.3	34.1	22.8	1,359
Phra Chula Cham Klao	264.7	35.1	20.7	1,568
Phra Cham Klao	264.7	35.1	20.7	1,568
Devawongse	207.5	37	21.8	1,643
Chawfa	207.5	37	21.8	1,646
Phra Nang	270.4	37	21.8	1,603
Loosok	270.1	37	21.8	1,604
Wachew	270.1	37	21.8	1,600
Keong Wai	289	37.8	21.5	1,777
Chow Tai	289	37.8	21.5	1,777
Wang Kai	289	37.8	21.5	1,777

* Not entered at Lloyd's.

Lauts & Haesloop are general shipping and commercial agents. They are the chief importers of foreign liquors. They are agents for the Langkat Oil Company. They have an agreement with the German and Chinese Governments for furnishing coolies to Deli, Sumatra. Mr. Haesloop is the resident manager. The following is a list of the ships accredited to Lauts & Haesloop:

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Vessel.	Length.	Breadth.	Depth.	Tonnage.
	Feet.	*Feet.*	*Feet.*	*Tons.*
Taicheong	234.2	32.1	19.9	1,301
Tai Lee	224.2	32.1	19.9	1,301
Prudentia	312	40.2	19.8	2,776
Broadmayne	334.4	44	18.9	3,120
Tankerville	37.2	37.2	18.4	2,355
Sultan von Langkat	285	39.5	15.5	2,323
Orange Prince	260	36	25.7	1,921

Bradley & Co. is the oldest firm in Swatow, and, until the death of Mr. Bradley, was an American firm. The managers are commercial and shipping agents. They deal in Manchester goods. They are coolie agents accredited by the Chinese and English Governments. They have a branch office of the Hongkong and Shanghai Bank. They are large importers of oil, and have large oil tanks and tinning plant on the Kah Chieh side. They are agents for the Shell Oil and Steamship Company. They export large quantities of hen's feathers to England. They have an ice plant with a capacity of 6 tons a day, are makers of artificial fertilizer, import snuff, and are in general open to new lines of business. Mr. J. D. Monro is the resident manager. The following is a list of the ships accredited to Bradley & Co.:

Vessel.	Length.	Breadth.	Depth.	Tonnage.
	Feet.	*Feet.*	*Feet.*	*Tons.*
Siam	258	36.1	14.8	1,577
Sisham	243	38.3	20.6	1,351
Chwnshan	285	36	24	1,999
Sabine Rickmers	200	30.7	20.7	1,026
Paksham	276	36.3	24.4	1,976
Taishan*				
Peluse*				
Osaka Shosen Kaisha.				
Daijin Maru	249.5	35	17.0	1,620
Anping Maru	252.6	35	13.8	1,698
Akashi Maru	244	34.2	17.1	1,599

*Not entered at Lloyd's.

Melchers & Co. are general shipping agents. They ship large quantities of sugar to Hankau, and bring back bean cake. They are coolie brokers. They are agents for the German freight lines in Hongkong. The ships accredited to Melchers & Co. are:

Dagmar.—Length, 138 feet; breadth, 21 feet; depth, 8.4 feet; tonnage, 183 tons.
Nuentung.—Not entered at Lloyd's.

The China Merchants Steam Navigation Company are general shipping agents. They do a large business in bean cake. They are coolie brokers, doing the largest coolie business in Swatow. They

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ship coolies to Singapore. The following is a list of the ships accredited to this company:

Vessel.	Length.	Breadth.	Depth.	Tonnage.
	Feet.	*Feet.*	*Feet.*	*Tons.*
Yungching	330.7	30	16.1	1,196
Fungshun	225	34	21	1,368
Taishan	265	40.1	21.2	1,800
Harshin	212.6	33.5	18.8	1,145
Toonan	253.2	36.1	27.3	1,537
Poochi	209.7	35.4	14.8	749
Fushun	280	40	17.9	2,364
Kwang Lee	280	40	25.4	2,370
Meefoo	265	33	19.7	1,793
Hsinyu	250	37	19.8	1,377
Hsinyung	260	37	12.3	1,708
Hsinchi	260	37	21.3	1,708
Irene	219	40	12.5	1,343
Leeyuen	201.8	29.3	13	1,045
Anping	285	26.5	21.2	1,879
Kungping	320	46	21.1	2,705
Chiyeun *				
Haitang *				
Kwongchi *				
Feiching *				
Haian *				

* Not entered at Lloyd's.

Lim Yang Seng & Co. are general shipping agents and coolie brokers. The following is a list of the ships accredited to Lim Yang Seng & Co.:

Vessel.	Length.	Breadth.	Depth.	Tonnage.
	Feet.	*Feet.*	*Feet.*	*Tons.*
Glenfallock	330	34	24.8	2,180
Cheang Hok Kian	263.4	31.3	17.9	1,459
Hong Leong	265.8	39	14.4	1,867
Charterhouse	325	37.2	23.9	1,512
Seahg Leong *				
Cheang Chow *				
Hong Wan I *				
Hong Bee *				
Miscellaneous.				
Kiang Nan	266	36.2	22.4	2,097
Keang Bee	234.4	30.2	16.4	1,207

* Not entered at Lloyd's.

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BAGGAGE OF PASSENGERS FOR JAPAN.

Minister Buck sends from Tokyo, November 6, 1901, clipping from the Japan Mail, as follows:

NOTICE TO PASSENGERS.

The following rules are translated for the information of passengers coming from abroad to any open port of the Empire of Japan:

I. All articles coming from abroad as personal effects or passengers' baggage shall be examined by the customs officer at the port of arrival.

II. No formal entry is required for personal effects actually brought by passengers, but the latter shall make a verbal declaration of the contents of their baggage before the examination is commenced.

III. Dutiable articles not declared and so concealed as to indicate an intention to evade the duty are forfeitable and the offender is liable to a fine corresponding to three times the amount of the duty which he has evaded or attempted to evade.

IV. Passengers who have attempted to import prohibited articles or have imported them are liable to a fine corresponding to the value of the articles, and these articles are forfeitable.

V. The importation of the following is prohibited by law:

(*a*) Adulterated drugs, chemicals, medicines, food, and beverages considered to be injurious by the laws, ordinances, and regulations of the Empire.

(*b*) All articles for use in smoking opium.

(*c*) All articles which are considered to be dangerous to the public health for sanitary reasons, or to the safety of animals or plants, under the laws, ordinances, and regulations of the Empire.

(*d*) Counterfeit coins of any kind and imitations of coins which might be considered to be counterfeit coins.

(*e*) Articles infringing patents, designs, trade-marks, or copyright laws of the Empire.

(*f*) Opium and leaf tobacco.

(*g*) Prints, printed books, paintings, engravings, carvings, or any other articles which might be considered dangerous to public security or morals.

VI. The following articles are passed free of duty as personal effects in certain quantities, which depend upon the discretion of the customs officer:

(*a*) Clothing, shirts, gloves, stockings, hats, shoes, handkerchiefs, and other personal effects of the kind.

(*b*) Watches, umbrellas, canes, or sticks, bracelets, rings, hair ornaments, neckties, tobacco cases, towels, tablecloths, articles of stationery, bicycles, pistols, sporting guns, musical instruments, toys, etc.

(*c*) Toilet articles, cameras, portable telescopes or opera glasses, deck-chairs, food baskets, portable dinner sets, portable drugs, trunks, blankets, etc.

(*d*) Comestibles, beverages, tobacco (wines and spirits of any sort which do not exceed 2 pints of each kind; tobacco which does not exceed in quantity 13 ounces of cut leaf or 100 pieces of cigars, 200 pieces of cigarettes or 6 ounces of snuff).

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VII. The following are free of duty:

(*a*) Books, atlasses, maps, charts, journals, newspapers, etc.

(*b*) Negotiable papers.

(*c*) Gold and silver (bullion and coins).

VIII. No duty shall be levied on articles temporarily imported for the professional use of travelers engaged in scientific researches, or on those imported as samples by commercial travelers, provided that security corresponding to the amount of duty is deposited at the time of importation, and the said articles are re-exported within six months from the date of importation.

IX. A passenger may apply to the customs officer at the port of his first arrival for a certificate of examination to be pasted on his baggage, in order to have the baggage passed without examination at the next port.

X. Any baggage not withdrawn from the customs compound within seventy-two hours from the time of its landing shall be taken into the customs warehouse at the expense and risk of the person concerned.

SIBERIAN IMPORT DUTIES.

Replying to Department instruction relative to the assessment of duties on merchandise imported at Vladivostock, requested by parties in the United States,* I inclose circular of instruction to shippers and a list of articles with duties thereon affecting mainly American imports.

I defer comments upon the operations of the tariffs as they concern both Siberians and Americans, awaiting the arrival of Mr. Romanoff, Assistant Secretary of the Ministry of Finance, and the statements to be presented to him relative to the hardships imposed by the tariffs on the merchants and people of this city and vicinity.

Mr. Romanoff is expected to reach Vladivostock late in September or early in October, and the statistical committee has appointed a subcommittee to prepare a suitable memorial on the whole tariff question.

RICHARD T. GREENER,

VLADIVOSTOCK, *September 12, 1901.* *Commercial Agent.*

I.—CARGO FOR VLADIVOSTOCK AND OTHER SIBERIAN PORTS.

The Russian customs laws came into force at these ports on January 1 last. The custom-house regulations are very strictly enforced, and we would ask your particular attention to the following, governing cargo destined for Vladivostock or any other eastern Siberian port:

(1) In addition to the usual bills of lading, it is necessary to make two extra nonnegotiable copies for the company's agent at port of destination, to be sent forward by the carrier of the cargo. The company's agent will also require a manifest and ship's provision list to deposit at the custom-house.

*ADVANCE SHEETS have been sent the inquirers.

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(2) Marks, numbers, and contents of all packages must exactly correspond with those specified and declared on the bill of lading.

General terms, such as "merchandise" or "stores," are insufficient.

(3) Bills of lading must show the total number of packages in writing.

(4) No corrections, alterations, or erasures of any kind are permitted on the bills of lading.

(5) For any cargo that has been entered on the manifest, but which has been shut out by the steamer, certificates to the effect that the cargo, though manifested, was not shipped—signed or certified to by the Russian consul at the port of shipment—must be sent forward to the company's agent at the port of destination by first mail after departure of the steamer by which the goods were to have been shipped. Should there be no Russian consul at the port of shipment, the certificates should be signed by the custom-house authorities at that port. Certificates must show marks and full particulars of such shut-out cargo. Failing prompt exhibition of such certificate, steamer will be subject to fine and the agent be compelled to pay full duty on the goods so manifested.

(6) Cargo overlanded—*i. e.*, landed but not entered on manifest and bills of lading—will be treated as contraband and confiscated.

(7) Bills of lading must specify gross and net weight, and exact contents of each package.

(8) Any goods in the construction of which iron or steel has been used must be accompanied by a certificate from the Russian consul at the port of shipment as to the country in which the goods were made. There is a prohibitive duty on iron or steel of American origin, and in the absence of evidence to the contrary, all such goods will be treated as if coming from America.

(9) No night work will be permitted.

Failure in observation of these regulations will render the vessel making entry liable to detention and fines.

2.—DUTIES LEVIED ON IMPORTS AT VLADIVOSTOCK.

Article.	Duty per pood,* save where otherwise designated.		Additional duty.
	Rubles.		*Per cent.*
Barley and flour	0.30	$0.154	50
Dried fruit	2.70	1.39	50
Olives and capers	3.00	1.545	50
Nuts	1.50	.772	50
Pickles and sauces	7.50	3.862	50
Condensed milk	14.00	7.21	50
Vanilla and saffron	21.60	11.124	50
Bay leaves	1.95	1.257	50
Coffee beans	4.50	2.317	50
Coffee, ground	6.00	3.09	50
Cocoa beans	4.00	2.06	50
Cocoa in tins	6.00	3.09	50
Cigarettes per pound	1.95	1.257	50
Cigars do	4.50	2.317	50
Jams, jellies, and candies	14.40	7.416	.....
Hops	15.00	7.72	.....
Wines†	6.00	3.09	50
Honey cider	2.25	1.159	50
Vinegar	1.95	1.257	.....
Cheese	9.00	4.635	.....
Smoked and salted herrings	1.80	.927	50

*1 pood=36.112 pounds. †Over 16° alcohol, 18 kopecks (9.27 cents) for every degree.

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2.—DUTIES LEVIED ON IMPORTS AT VLADIVOSTOCK—continued.

Article.	Duty per pood,* save where otherwise designated.		Additional duty.
	Rubles.		*Per cent.*
Oysters and salmons, in tins	3.60	$1.854	50
Gelatin ..... per pound	9.00	4.635	50
Fish oil	3.30	1.70	20
Candles	4.20	2.163	20
Leather	16.50	8.497	10
Shoes ..... per pound	3.00	1.545	30
Gloves ..... do	4.50	2.317	.....
Leather manufactures, except shoes ..... do	1.00	.515	.....

*1 pood=36.112 pounds.

QUININE AUCTION AT BATAVIA.

Consul Rairden sends the following from Batavia, October 15, 1901:

The fifteenth public auction sale of quinine was held at the Merchants' Exchange in this city on the 9th instant, and the following were the prices realized:

Editio II, consisting of 5,670 kilograms (12,500 pounds) of sulphate of quinine in two hundred and fifty lots, each of 22.68 kilograms (50 pounds): Some one hundred and sixty lots were sold at from 20.55 florins ($8.26) to 21 florins ($8.44) per kilogram (2.2 pounds) and the remaining ninety lots were unsold, as limit was not realized.

Editio III, consisting of about 750 kilograms (1,653.4 pounds) of sulphate of quinine, packing and weight at purchaser's option, weight not less than 22.68 kilograms (50 pounds) and not above 25 kilograms (55.1 pounds): Sold at 20.55 florins ($8.26) per kilogram.

The average price realized at this sale—20.57 florins ($8.27)—equals the unit price of 0.084 florin (3.4 cents) for the bark at the Amsterdam market, which is somewhat higher than the unit price of 0.08 florin (3.2 cents), for which the bark was sold at the last sale at Amsterdam on the 3d instant.

MEDICAL INSTITUTE IN MALAY STATES.

Consul-General Williams sends from Singapore, October 7, 1901, copies of a circular calling the attention of scientific workers to the establishment of an institute for medical research in Kuala Lumpur, the capital of the Federated Malay States.

The institute, says the director, in transmitting the circular to

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Mr. Williams, is open to scientific workers, irrespective of nationality. He wishes to have the circular distributed in the United States. It reads:

(1) The government of the Federated Malay States wishes to call attention to a research institute that it has recently established. The institute is situated in Kuala Lumpur, the capital of the Federated Malay States, and is open to all workers, irrespective of nationality.

(2) The medical department is fully equipped for special and general pathological work, for the scientific study of clinical medicine, experimental physiology, and bacteriology. A modern mortuary with a refrigerator chamber is a feature.

(3) A chemistry department is in order for both organic and inorganic research. There is in addition a well-equipped photographic department, facilities for biological research, and a good working library.

(4) The institute and its resources are open to all, irrespective of nationality, under the conditions that usually obtain in such establishments.

(5) To the members of scientific commissions who visit the Malay Peninsula and neighboring islands, the institute affords an excellent opportunity for working up and preparing collected material.

(6) To students of tropical medicine the field for work is large. Beriberi, especially, exists under unique conditions. Malaria exists in at least four distinct types.

(7) The institute is at present under the direction of Hamilton Wright, M. D. (McGill), and any communications in reference to the institute addressed to him will be welcome.

By command, F. J. WELD,
Acting Secretary to Resident-General, F. M. S.

RESIDENT-GENERAL'S OFFICE,
Selangor, July 10, 1901.

THE BAGDAD RAILWAY.

In my last annual reports* I have referred to the proposed railway through Asia Minor and Mesopotamia to the Persian Gulf. It now seems that the final convention between the Sublime Porte and the German syndicate which obtained the concession (November 17, 1899) is about to be concluded.

According to generally accepted reports, the following are the principal conditions insisted upon by the Anatolian Railway Company:

Line of railway.—Leaving Konieh, the line will pass by Eregli, Adana, Hamidie, Tel Habech, Haran, Raselain, Halet, Nissibin, Mossoul, Tekrit, Bagdad, Kerbela, Nedjef, Zobeir, and Bassorah.

Branch lines.—(1) Hamidie to Castabol; (2) Tel Habech to Aleppo; (3) from an unfixed point to Orfa; (4) Sadidje to Hanekin; (5) Zobeir to Kazima; (6) Kazima to Koweit.

Duration of concession.—Ninety-nine years from date of Firman, which will apply to the whole of the present lines of the Anatolian Railway.

Delay.—Twelve months allowed for completion of plans and twelve years to complete the works.

* Commercial Relations, 1899 and 1900, Vol. I.

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Preference lines.—The company will have preferential rights for the following branch lines: (1) Toward Marach; (2) toward Aintab; (3) toward Biredjik and Mardine; (4) toward Erbil; (5) from Diala toward Salahie; (6) from El Badj to Hit; and, finally, a concession for a railway or tramway from Aleppo to the sea.

Guaranty.—The company must deposit £30,000 Turkish ($132,000) in cash or state stocks.

Other privileges.—Navigation service monopoly on the Chat el Arab, Tigris, and Euphrates; construction of ports at Bassorah, Castabol, and Kazima; working of all mines not already conceded in a zone of 20 kilometers (12.4 miles) on each side of the line; exemption from customs duty on all material; exemption from all interior taxes, such as property tax and stamp tax; right to build brick and tile factories; installation of depots and magazines; monopoly for steamboat service between Stamboul and Haidar Pasha for the transport of passengers and merchandise.

As to the state kilometrical guaranty, the figures most frequently mentioned are 13,000 francs per kilometer ($2,509 per 0.62137 mile) per annum, plus 4,500 francs ($868) for "frais d'exploitation," which latter item looks somewhat like a permanent subvention, irrespective of receipts. The length of the line will be about 1,500 miles.

Considerable importance is attached to the inclusion of a clause allowing the railroad company to make advances to cultivators along the line, against mortgage on the property involved.

Eventually, the railway will traverse regions which are capable of producing wheat and cotton on a large scale.

It is said that not only German, but also French and English, capital is to be employed in this new enterprise, which promises a new era to western Asia.

G. BIE RAVNDAL,
Consul.

BEIRUT, *November 16, 1901.*

OPENING FOR HORSESHOES IN ASIA MINOR.

There is an opening for the sale of machine-made horseshoes in the markets of this district, to which the attention of American manufacturers might profitably be drawn.

The horses, mules, and donkeys of this region largely outnumber the population. In consequence, horseshoeing is an important occupation and the consumption of horseshoes reaches a high figure.

The type of shoe employed here is that common to the Orient—a plate fitted so as to cover the entire sole of the hoof, with a perforation in the center. The weight of the average shoe is three-fourths of a pound. The native smiths have usually cut these plates from sheets of wrought iron, and rudely shaped them for the purpose in view. Of late years, the smiths have received from Constantinople stocks of ready-made shoes, which cost at the seaport of Samsoun 3½ piasters per oke, or 5 cents per pound. Transportation to this point from the seaboard costs in addition 1⅔ cents per pound. Within a short time, a Belgian firm has begun

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to import shoes of good quality, laying them down at Samsoun at a cost of 2½ piasters per oke, or 3⅓ cents per pound. These shoes have already reached the consumers of this region, and have been found very satisfactory.

I am strongly inclined to believe that American manufacturers of horseshoes who make the style in question could easily compete with the Belgian product, sending their wares either to the coast cities or direct to interior cities such as Harput.

This consulate, or the American agency established here, will be glad to further the plans of manufacturers desiring to enter this field.

I have conferred with those who have returned from the United States, who are familiar with our ordinary style of horseshoe, in regard to its introduction in this section. The prevalent opinion is that it would win its way, if properly introduced, and ultimately supplant the existing type, although it would take time.

The fear is expressed that on account of the stony roads and bridle paths of this region, the horses' hoofs would be insufficiently protected. The roads are, however, no worse than in many of the mountainous regions of the United States. Personally, I have often wished, when traversing some of the narrow, precipitous paths in the adjoining Taurus Mountains, that my steed, instead of being shod with smooth plates, wore a set of American shoes with well-developed calks.

THOMAS H. NORTON,
Consul.

HARPUT, *October 31, 1901.*

SLAVE TRADE IN ABYSSINIA: CORRECTION.

The Department has received a dispatch from Consul-General Long, of Cairo, dated November 18, 1901, in reply to a complaint from the Italian Government with reference to a statement in one of his reports (ADVANCE SHEETS No. 1113)* to the effect that the slave trade was carried on from Massaua, the capital of the Italian colony in East Africa, and the coast north thereof in Italian territory. In a communication to the Department, the Italian embassy at Washington had explained that the source from which Consul-General Long derived his statement was the report of Lord Cromer, the British agent in Egypt, for the year 1898, and that instead of locating the slave trade at Massaua, Lord Cromer said that slaves were imported into the Hedjaz from the coast north of Massaua. Moreover, this statement was made with reference to conditions three years ago. Since then, the Italian governor of Massaua has accomplished gratifying results in the suppression of the traffic.

* CONSULAR REPORTS No. 253.

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In his reply to the statement of the Italian Government, Consul-General Long expresses his regret that the language of his report should have seemed to reflect upon the Italian authorities, and says it certainly was not anticipated or intended, "as I believe, from my examination and study of the matter, that the Italian Government has been as earnest, vigilant, and persistent in its efforts to suppress the traffic in slaves as any other country."

CARRIAGES IN TURKEY IN ASIA.

Vice-Consul Ojalvo writes from Erzerum, October 24, 1901, that there is an opening for trade in carriages in that district. At present, the Russian vehicle monopolizes the market, inasmuch as it is made strong enough to resist the rough roads of the country. The cost is from $200 to $250, delivered at the frontier. He sends a photograph (see cut) to give an idea of the vehicle in use.

Petroleum automobiles, the vice-consul thinks, can be readily introduced in that country if they are strongly made and cost about $300 or $400 for four seats. The ox cart, which was the favorite means of traveling for the people in Asia Minor, is now almost neglected, and the carriage is taking its place.

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AMERICAN COTTON GOODS IN TURKEY.

I take pleasure in reporting the success attendant upon the first serious experiment in introducing American cotton fabrics into this market, where hitherto English wares have held undisputed sway.

During the past week, a jobber exposed for sale fifty pieces (40 yards each) of American "cabot." The stock was sold promptly to local retailers at $2.85 per piece, or 7⅛ cents per yard. Great satisfaction was expressed with the quality, on account of its superior strength and weight. Dealers prefer it to the best grade of Manchester goods reaching this market, leaving out of consideration the higher price of the latter, viz, 10 cents per yard.

Hitherto, the merchants in this vilayet have purchased cottons, calicoes, and prints almost exclusively from English, German, and French agencies in the Orient. There is a strong and marked desire on the part of wholesale dealers to secure this class of goods directly from the United States, if prices will warrant the change.

This consulate will be pleased to further in every way the efforts of American manufacturers desiring to occupy this field, and will place price lists and samples in the proper hands, as well as display them in the commercial exhibit attached to the consulate.

Samples too bulky to be forwarded by mail can be addressed to this consulate, care of the Export Shipping Company, No. 9 Broadway, New York City.

THOMAS H. NORTON,
Consul

HARPUT, *October 12, 1901.*

PACKING FOR ASIA MINOR.

The question of transportation from the coast to the inland cities of Asia Minor is of prime importance in connection with all efforts to establish trade relations at these points, especially at such centers as Harput and Diarbekr, far removed from the seaboard. A wagon road extends from Samsoun, on the Black Sea, to both these points, and vehicles make the journey in a little over a fortnight. The bulk of the traffic, however, from Samsoun, as well as all the transportation from the slightly nearer port of Alexandretta, on the Mediterranean, is by means of camels, horses, and mules. Out of 12,000 loads of merchandise received annually at Harput and Mezreh, but 150 are wagonloads.

In order to insure the lowest possible freight rates, it is essential for foreign exporters to adapt the size and weight of their packages, as far as practicable, to the local requirements. The following

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information and suggestions may be helpful to those who are endeavoring to gain a foothold for their wares in central and eastern Turkey.

WAGON TRANSPORTATION.

This is available for freight forwarded to the seaport of Samsoun. It is the only means of transport, and the route the only means of communication available for packages exceeding 240 pounds (85 okes) in weight. Wagoners are unwilling to take packages exceeding 510 pounds (180 okes). Such packages, as well as light packages of large or awkward volume, pay excess freight. The maximum weight of a package which can be transported by wagon is 1,415 pounds (500 okes).

In packing for this market boxes or bales which are to be forwarded by wheeled transportation, care should be taken to have the cases and wrappings of a thoroughly solid and substantial nature, and to pack the contents so tightly that there is not the slightest possibility of friction. These precautions are of prime importance, in view of the journey of fifteen to twenty days in springless, jarring vehicles over highways originally well constructed, but now in a sadly dilapidated condition. Samsoun agents protect packages, when necessary, with coarse, waterproof coverings before forwarding to the interior.

As an instructive example of freight charges on goods from abroad, I might quote the following data on a recent consignment of American agricultural implements to Harput: The lot included 1 mower, 3 plows, 3 cultivators, 1 harrow, 40 rakes, hoes, and forks, 2 sets of harness, etc; gross weight, 2,839 pounds; net weight, 1,999 pounds; cubic feet, 136.8. The freight rate from New York to Samsoun was $14.67, plus $1.80 insurance and $2 cartage in New York. The freight charge from Samsoun to Harput was $55, the rate being slightly higher than usual on account of the presence of two very bulky cases.

PACK-HORSE TRANSPORTATION.

The necessity for very compact and tight packing is less imperative than by the preceding method; the range of weight is, however, much more restricted. The normal weight for a package to be carried by the average horse or mule is 177 pounds (62½ okes). Muleteers dislike to take heavier loads, but occasionally accept packages weighing up to 198 pounds (70 okes). For packages of less than the normal weight, simple fractions, such as the half or third of the above figure—177 pounds—can be adjusted most advantageously to the pack animal. The preferable shape of a package is oblong, the proportions approximating those of a customary dress-suit case.

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CAMEL TRANSPORTATION.

The above remarks, concerning shape, division of weight, manner of packing, etc., apply also to transportation by camels. This method is the least expeditious, but on the other hand the cheapest and the most satisfactory of all the means of freighting. The slow, deliberate tread of the camel causes a minimum of jarring to the contents of the boxes. The preferable weight of packages for camels is 226 pounds (80 okes); the maximum weight is 246 pounds (85 okes).

RATES OF TRANSPORTATION.

Freight rates from Samsoun to Harput, a distance of 307½ miles (495 kilometers), vary from $1.40 to $1.97 per 100 pounds ($31.36 to $43 per ton of 2,240 pounds, or $3.09 to $4.34 per metric quintal of 100 kilograms), or 10½ to 14 cents a mile per ton of 2,240 pounds. Camel transport is the cheapest form of transportation; freight wagon the dearest. The latter method is most expensive in winter and early spring, when mud is deep and the mountain passes are obstructed by snow. Transport by pack animals is cheapest in the spring and early summer, when herbage is abundant by the wayside and the cost of subsistence en route sinks to the vanishing point.

Needless to say, all commercial interests in this region long for the realization of some one of the various projected routes of railway, bringing Harput and Diarbekr into steam communication with the seaboard. The time-honored caravan route from Bagdad to the Black Sea, upon which Harput is the halfway station, will then cease to be more than a historical reminiscence.

THOMAS H. NORTON,
Consul.

HARPUT, *October 12, 1901.*

ADVERTISING AMERICAN FARM MACHINERY IN GREECE.

I send herewith copy of a catalogue published in Athens* in the interests of one of the large manufacturing establishments of America, and would call attention to the success achieved by this method of advertising.

The local agent of this company, in speaking of the business done in American agricultural machinery, says that four times as many machines were sold this season as last, in spite of unfavorable crop conditions, and he believes the coming year will establish a

* Filed for reference in the Bureau of Foreign Commerce.

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record for this country, in which the area of farming land is not extensive.

I would especially call attention to the need for American houses to be represented by industrious agents in the principal trade centers of Greece. The agents of European exporters are always on the field. In response to numerous inquiries, I am endeavoring to introduce a number of manufactured articles from the United States, which, I think, can find a good market here, and, once known, will become indispensable. With no one, however, to look after later details, and with no direct line of ships from America, the venture constantly hangs in the balance. Competent and reliable agents may be had in almost every trade center—men who are acquainted with English sufficiently for business purposes, as well as with French and Greek. They must, however, be shown that there is money for them in the venture without the possibility of risk, and in the larger places an amount ought to be set aside for advertising purposes.

F. W. JACKSON,
Consul.

PATRAS, *October 30, 1901.*

AMERICAN PETROLEUM FOR GREECE.

The following is taken from the press of Athens, under date of October 23, 1901:

The Department of Finance has given an order to the house of Ralli Brothers, New York, to send at once a cargo of 70,000 cases of petroleum, and an additional one of 2,400 cases for Government light-houses and beacons. The Department has canceled the order placed with Russia, inasmuch as it is known that the petroleum ordered was not of good quality.

The above statement needs no comment beyond the fact that the order is to be considered larger than usual, in view of the rather recent landing of some 20,000 cases at this port, the distributing center for the north of the Peloponnesus and the Ionian islands, except Corfu. By way of explanation, I may add that these cases each contain two 5-gallon tins, and weigh 65 pounds net. The order placed, therefore, represents a net weight of 4,706,000 pounds, and a quantity equal to 720,000 gallons.

F. W. JACKSON,
Consul.

PATRAS, *October 24, 1901.*

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SULPHATE OF COPPER FOR GREECE.

Consul Jackson telegraphs from Patras, December 9, 1901, that "the Greek Currant Bank votes [to purchase] 500 tons of sulphate of copper." Sealed bids for delivering this quantity will be received.

In a report printed in ADVANCE SHEETS No. 1075,* it was noted that, in consequence of the great increase of peronospora in Greece, sulphate of copper has become an important article of importation, the present yearly consumption being estimated at from 7,000 to 8,000 tons.

The banks and syndicates that control the Greek currant trade import sulphate of copper in large quantities and sell it to the planters practically at cost. Thus, the "Currant Bank of Greece" imported over 2,000 tons last year.

Nearly all the importations have so far come from Great Britain, which in 1900 furnished a satisfactory article at an average price of £23 10s. ($114.36) per ton. The British product contains from 98 to 99 per cent of pure sulphate of copper, the residue consisting of copperas and a few other impurities. Sulphate of copper is on the free list. Americans have won a large share of this trade in Austria, and should be able to compete in Greece.

ARCHÆOLOGICAL DISCOVERIES IN GREECE.

The recent archæological discoveries in Greece and the islands adjacent have been so numerous that a proper understanding of their general significance has been rendered difficult. Interest is at present centered in the islands of Leucas and Ithaca, because of discoveries which may shed a new light upon the home and surroundings of Odysseus. From various parts of the country come reports of discoveries, although in many cases these are mere fabrications, and, when they are not, considerable difficulty is found in securing Government possession.

A rather important field is being developed on the Island of Crete. Seven tombs have been unearthed within the last three months, bearing every evidence of Myceanic origin and containing skeletons of men and women, marble statues, gold rings and bracelets, and various other ornaments and figures. One held a very remarkable carving in carnelian, rectangular in form, but slightly rounded on its long sides, and surmounted by two striking figures. The one represents a man in a kneeling position grappling a huge

*CONSULAR REPORTS No. 252.

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bull by the horns; the more remarkable of the two, however, is the figure of the Babylonian demon of the storm, the monstrous Typhon or Typhoon, after Assyro-Babylonian art, standing, with open mouth, upon its hind feet and holding aloft between its fore-feet the figure of an animal. Upon its back it bears the heavy, fringed tunic of the Babylonian kings. This figure is considered of a high order of workmanship and very valuable.

Among other objects of interest found in these tombs were an earthen vase in the form of a wine pourer, the neck and mouth representing the head of a bird; a small bronze mirror; rectangular blocks of ivory surmounted by figures of mariners; and light, golden beads or bulbs, used as the medial pendants for necklaces and collars. The corridor leading to the tombs, cut out of solid rock, is 13 to 16 feet long and about 3½ feet wide, and the door leading into the tombs extends in an arch to the top of the passageway and is constructed entirely of hewn stone laid without mortar. The bodies discovered in each of the tombs are in a poor state of preservation, in most cases only the teeth remaining intact.

F. W. JACKSON,
Consul.

PATRAS, *November 18, 1901.*

INDUSTRIAL DEPRESSION IN AUSTRIA-HUNGARY.

There is every indication that Austria-Hungary is on the eve of great industrial depression. The wave of inactivity which has been influencing Germany for the past two years appears to be moving eastward. Until recently, iron, steel, electricity, petroleum, and nearly all other great industries seemed to be in a flourishing condition, the only apparent exception being the textile branch. Here, the crisis came more than a year ago. A short period of unusual prosperity had caused a rapid increase in the number of spindles and looms. This was followed by overproduction, and in time by stagnation. The crisis was doubtless hastened by the extraordinary rise and subsequent sudden fall in the price of raw materials and a consequent demoralization in the market. While the cotton and woolen mills have gradually reduced their stocks and most of them have again resumed work—though prices are still far from being profitable—other more important industries are beginning to feel the paralyzing effect of overproduction and ruinous foreign competition.

About a year ago,* I reported that at the request of the native petroleum refiners, the Government had increased the duty on crude

*CONSULAR REPORTS No. 246; ADVANCE SHEETS No. 924.

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petroleum from 2 to 3½ florins gold (96.5 cents to $1.69) per quintal. As it was intended, this measure entirely stopped Russian imports and gave a great impetus to the home refining business. Several new plants were established, and in many instances the capacity of those already in existence was increased. Overproduction followed, prices fell, and the business in Austria-Hungary has suffered seriously.

In many of the iron and steel works in northern Austria, work has been reduced, and some establishments have even notified their men that if orders are not soon received they wili shut down at the close of the year. It is furthermore stated that the Austrian locomotive works have not received a foreign order for months, and that, inasmuch as with their present force of employees the entire home demand for 1902 will be supplied within a few months, the prospects for the ensuing year are rather gloomy. Car shops, furniture and tool factories, sawmills, and similar establishments are only partially employed, and the building trades complain of general inactivity.

That the condition is critical is universally admitted. The situation has been the subject of earnest discussion in the Austrian and Hungarian Parliaments, as well as in the various chambers of commerce and in the municipal councils of the leading cities of the Monarchy. Meetings of representatives of the principal industries affected by the present crisis have also been held, for the double purpose of surveying the field and of devising, if possible, measures of relief. The Governments of both halves of the Monarchy have been petitioned to come to the rescue of the languishing industries, by entering as soon as possible upon the execution of certain public works originally planned for 1902 and 1903, and by letting at once the contracts for such army supplies and railway rolling stock as will be needed during the coming year. Both Governments have declared themselves disposed to favor the proposed measures, and a number of large contracts will doubtless be let at once, and others will follow as soon as the necessary appropriations have been made by the respective Parliaments. It has been officially stated in the Austrian Parliament that the Ministry of Railroads will expend in the near future, for the purchase of locomotives, cars, track material, etc., about 57,000,000 crowns ($11,570,000), and that, if the budget for 1902 is promptly passed, other contracts, amounting to 30,000,000 crowns ($6,090,000), will soon be let by the several other departments of the Government.

FREDK. W. HOSSFELD,
Consul.

TRIESTE, *November 7, 1901.*

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AGRARIAN DEMANDS IN AUSTRIA.

While Austria does not have an organized agrarian party, like Germany, it has a strong agrarian element which demands tariff legislation similar to that recently outlined by the German Government. Austrian agrarians, however, differ from their German brethren in that they try to fraternize with the industrial elements. At a recent meeting in Vienna of leading representatives of the industrial and agricultural interests of the Empire (also attended by representatives of the Austrian Ministry), a strong effort was made to harmonize existing differences and to insure united action toward regaining the home markets for the various groups of industrial and agricultural producers. All the speakers—without exception, men of prominence—agreed that trans-Atlantic competition was Austria's greatest economical bane, and that the manufacturing industry and agriculture must advance arm in arm against the common enemy. The meeting closed with the unanimous adoption of the following resolutions:

(1) As regards the commercial policy of the United States of America, it is recommended that Austria-Hungary, following the example set by the German Empire, totally reconstruct its customs tariff so as to offer sufficient and permanent protection to its industries and agriculture. The new tariff should particularize to the utmost extent, and also leave room for the conclusion of favorable reciprocity treaties, to render export feasible and profitable.

(2) The material for treaty concessions should be made use of in the negotiations with every single state, or again and again, as is done by the United States. The unlimited most-favored-nation clause should not find a place in the new treaties, but reciprocity and equivalency clauses should be inserted instead.

(3) In view of the rapid changes which take place in all departments of science and commerce, the duration of our commercial treaties should be determined with regard to the productive, commercial, and political conditions of each contracting state. As a general rule, treaties giving sufficient protection to home production and tending to increase our exports should be of long duration, and treaties with the United States and the Argentine Republic of short duration.

(4) We again urge the adoption of the policy long since advocated by the industrial and agricultural interests, viz, united action by the states of central Europe against trans-Atlantic competition.

FREDK. W. HOSSFELD,
Consul.

TRIESTE, *November 15, 1901.*

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INDUSTRIAL UNDERTAKINGS IN HUNGARY.

Consul Chester writes from Budapest, October 14, 1901, in regard to the alleged inducements offered by the Hungarian Government for industrial undertakings, referred to in ADVANCE SHEETS No. 1029 (May 6) and No. 1107 (August 7, 1901).* Mr. Chester incloses the following translation of the law governing the matter, and adds that the experience of most foreigners has been that Hungary is not a profitable country for industry, but is considered a better market for the export trade.

LAW XLIX OF 1899 CONCERNING SUBSIDIES GRANTED BY THE HUNGARIAN GOVERNMENT TO NATIVE INDUSTRIAL UNDERTAKINGS.

Section I.

The Government may grant subsidies to—

(1) Factories, constructed and fitted according to the latest methods of technical science, which manufacture industrial articles not hitherto produced in the countries of the Hungarian Crown.

(2) To the following factories, already in existence or to be erected, fitted with modern technical appliances, viz:

(*a*) Factories of porcelain, pottery, fire bricks, glass plates, looking-glass and bottle glass, and to marble pits and marble cutters fitted with machines of recent types.

(*b*) Rolling mills (sheet-iron rolling mills excepted), factories producing metal pipes (cast-iron pipes excepted), metal wires, wire tacks, articles of zinc, needles, tools, mountings of doors and windows, arms, machines to work raw materials; manufactories of lamps, metal fancy goods, screws, and malleable cast-iron goods.

(*c*) Factories for scientific apparatus, stationery, clocks, toys, pianos, and harmoniums.

(*d*) Paper mills, paper pulp, cellulose, and paper-hanging factories.

(*e*) Factories which make chemical products (breweries, beet-sugar factories, and industrial distilleries excepted); factories for caoutchouc ware and candles.

(*f*) Plants which reel, spin, weave, and dye silk; wool-washing, wool-spinning, and wool-weaving factories; cotton spinning and weaving factories; flax-preparing, flax-spinning, and flax-weaving factories; hemp-preparing, hemp-spinning, and hemp-weaving factories; yarn and tissue finishing factories (color printing excepted); hosiery, lace, embroidery, felt, fringe, and string works.

(*g*) Mining undertakings which produce metals by washing, amalgamation, and with electrical power; as also coke works using inland coals.

(*h*) Chemical manure, malt, dextrin, glucose, vegetable oil, chicory, coffee surrogate, and conserve works; plants for industrial dairy products; rice-husking mills, if working inland rice; factories of salted, dried, smoked meat, sausages, and similar articles, so far as they work for export.

(*i*) Distilleries which produce cognac from wine and wine lees, which submit themselves to Government control.

(*j*) Mineral-oil factories, mines, and mineral oil and potassic salts works.

(*k*) Electrical plants furnishing power for industrial purposes.

* CONSULAR REPORTS Nos. 250 and 253.

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(3) Distributive societies of tradesmen and farmers, which produce articles mentioned in subsection 2 (*a–k*) of Section I of the present act.

(4) Undertakings which are founded in order to employ regularly a number of peasants working in any branches of house industry.

(5) Shipbuilding wharves and yards, as also ship-repair works, docks, and dry docks furnished with modern technical appliances, which are mentioned in section 13 of Act XXII, 1893.

Section II.

To the factories mentioned in Section I there will be granted, besides the exemption from the house tax already conceded by Section II of Act LI, 1870, the following facilities:

(*a*) Exemption from trade taxes and mining taxes; from the tax imposed on undertakings which are compelled by law to publish their accounts; exemption from additional rates and fees, which may be levied as local taxation and for chambers of commerce; finally, exemption from the additional income tax.

(*b*) Exemption from fees and local rates levied in connection with the purchase and the transfer of factory lands, as well as buildings or machines belonging thereto; and in case of limited companies, exemption from stamp duties and fees on the documents.

(*c*) The Minister of Finance is empowered to supply the above-mentioned factories with such quantities of rock salt as they may require for manufacturing purposes, below the prices stipulated by Act L, 1875, and also to reduce the amount of caution money to be deposited by salt purchasers.

(*d*) The facility mentioned in section 159 of Act I, 1890 (exemption from the municipal road toll) applies also to the industrial undertakings favored by virtue of the present act.

Section III.

The facilities are to be granted for a period not longer than fifteen years, commencing from the day of their coming into force.

Newly erected factories should apply for facilities within three years at most from the date of commencing trade; otherwise they will not be granted.

The commencement and duration of subsidies and facilities will be determined by the Minister of Commerce after consultation with the Minister of Finance and, in cases where agriculture and forestry are concerned, with the Minister of Agriculture. Facilities which were granted to factories by the Government in accordance with Act XIII of 1890 are maintained in force.

The Minister of Commerce is empowered to grant the facilities provided for in the present act to existing factories or works, if they belong to the categories mentioned in subsection 2 of Section I of the present act.

Section IV.

The Minister of Commerce may grant the royal Hungarian railways and railways subsidized by the State rates not exceeding the cost of building materials and machinery required for the construction and for plants of the undertakings mentioned in Section I of the present act.

Section V.

The Minister of Commerce may grant the facilities mentioned in subsection *a* and *d* of Section II of the present act to factories or plants, which are entitled to favors only for certain branches thereof. In such case, the term of facilities is to be reduced according to the importance of the branches not entitled to favors.

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Section VI.

The Minister of Commerce may stipulate that the subsidies mentioned shall be granted only on certain conditions relating to the location and size of the undertaking, or the number of employees. He may refuse the granting of favors, if this refusal be required by the interests of an industry already established in the country.

Section VII.

The factories to which subsidies are granted by virtue of the present act are assimilated to undertakings mentioned in Act XLI of 1881.

Section VIII.

The decision as regards the grant of subsidies and facilities (Section III) is to be published in the Official Gazette and to be made known to the municipality and chamber of commerce interested.

Section IX.

Municipalities and towns are entitled to exempt from local rates and house tax newly created factories and plants, which are not mentioned in the present act. The decisions regarding such cases are submitted to the Minister of Commerce, Finance, and the Interior.

Section X.

Act XIII of 1890 is hereby repealed.

Section XI.

In applying this act in Croatia and Slavonia, the Minister of Commerce will act in conjunction with the Banus of Croatia, Slavonia, and Dalmatia.

Section XII.

The present act comes into force on January 1, 1900, and ceases after December 31, 1909, but the exemptions granted by virtue of the same are maintained for the term stipulated. The Ministers of Commerce, Finance, and the Interior are entrusted with the carrying out of this act.

The regulations governing the workings of this law have been filed for reference in the Bureau of Foreign Commerce, where they may be consulted by interested parties.

THE LINEN INDUSTRY OF BOHEMIA.

First in general importance among North Bohemia's numerous and diversified manufacturing industries are those producing woolen, cotton, and glass goods. Then comes the linen industry, which, while only fourth in importance in Bohemia, stands at the head in the value of its exports to the United States.

LOCALITY OF THE LINEN MANUFACTURE.

The linen industry is concentrated in the extreme eastern part of this consular district (Reichenberg). The only apparent reason therefor is that generations ago someone in that locality began weaving flax yarn into cloth by hand; neighbors did likewise, till

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gradually it became the chief occupation of the local population. Then power looms were invented, whereupon, as was natural, someone engaged in hand weaving built a factory. Other factories followed, some being erected by outside capitalists, who came to that particular spot because everybody thereabout understood linen making and consequently a plentiful supply of skilled workers was right at hand; and so the tendency has been, down through the years to the present. Other localities have offered superior conveniences for linen making—good railroad facilities, better water supplies, more bleaching grounds, etc., but the industry has always clung to the locality where it originated, though out of the way as to transportation facilities, and therefore at a disadvantage in respect to freight rates and other incidents. A quarter of all the linen produced in this district is made in one little town several miles from a railway station, and consequently a long and expensive haul by wagon is necessary to the shipment of the goods.

FLAX-SPINNING MILLS.

The twenty-five flax-spinning mills in this district employ 10,414 people, many of whom are women and girls. The employees generally work by the piece and earn from 30 to 60 cents per day, the maximum being considered very good wages. For piecework, females receive the same pay as men; while if working by the day they only receive about 30 cents, where males receive about 40 cents.

The annual value of the yarn spun by the twenty-five mills is about $8,000,000; total number of spindles, 200,000; the largest mill using 30,000. All are of British make.

That a flax mill is health destroying and life shortening to those employed in it is the first impression of the visitor. Before the flax can be spun it must be thoroughly cleaned of dust and waste, which is done by a fanning process. This keeps the working rooms constantly filled with a stifling cloud of small particles, which many of the employees—being mouth breathers, as I have noticed—take into their lungs. Nevertheless, it is averred that these people are not unhealthy nor short lived; and in fact they do not look so, some being gray and old, with records of thirty to fifty years of steady work in such apparently deadly surroundings.

There is a large export of linen yarn, and also some import. For fine linens, a quality of yarn imported from England is often considered the best.

LINEN-WEAVING MILLS.

In this consular district, 20 mills use 1,598 power looms operated by 1,643 persons and 2,088 handlooms operated by 2,153 persons. Linen weaving is, however, largely a home industry, as in houses

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scattered about the linen territory there are 95 power looms employing 95 people and 6,805 handlooms employing 7,678 people. The annual aggregate value of the product in factories and houses, as reported to me, is about $4,000,000. This seems small, and I should doubt the accuracy of the figures if they were not from reliable official sources. From these figures, and from the value of exports declared at this consulate, it appears that one-seventh of the total linen product of the district is sold to the United States.

The mills do not use house labor, unless to fill some unusual order requiring skill which their mill hands lack, or to assist in supplying the demands in very busy seasons. There are, however, numerous firms who have no mills dealing heavily in linens; these employ the house looms.

The finest grades of linens are not made in this district. It is possible to produce them here, but the foreign trade, it is asserted, has become so accustomed to ordering only the cheaper grades from Bohemia that no sale can be found for fine goods if made in this country; this, one producer told me, he had demonstrated by actual experiment, to his serious loss. The linens made are of the qualities in special favor with department stores in the United States, and are such as hotels, restaurants, and families in comfortable circumstances find suitable for everyday use. Fine linen handkerchiefs are, however, made here and are largely exported, especially to Germany, though their sale to that country is seriously threatened by the provisions of its proposed new tariff law.

HAND VS. POWER LOOMS.

Whether hand or power looms make the best linens is a mooted question. The mills, of course, claim superiority for the latter, while the dealers employing house labor naturally award the palm to the former. The public is divided in opinion. It is a fact, however, that the finest, most beautiful, and most expensive linens are produced by power looms.

WAGES AND TRADE CONDITIONS.

Mill weavers earn about the same as spinners—30 to 60 cents a day, according to skill and rapidity. House weavers earn a trifle more per day, though at present the excessive dullness of the linen business—some producers declare it stagnant beyond all precedent—has thrown most of them out of work. Many who live on barren mountain slopes are in sore straits. They are trained to nothing but weaving and live where there is no other pursuit to follow. To this misfortune is added the sterility of the soil, preventing their sustaining life by cultivating gardens about their dwellings.

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There are silent looms in every mill. One which had the temerity last season to add a large, new building to its plant, intending to double its capacity, has this year lost courage. The new building stands empty, and, worse yet, some of the looms in the old factory are silent.

FIGURED GOODS.

The figures on linen goods are often ingenious and complicated. Constant use of figured goods in towels, napkins, and tablecloths so accustoms one thereto that the skill and labor necessary to produce them are not realized or even thought of. A design is woven into the cloth by the aid of a long strip of perforated cardboard, which passes over rollers above the loom. The threads pass through the perforations, which, as a whole, are the counterpart of the figure produced on the finished cloth. These cardboard designs require infinite skill and patience, not only in originating the figure, if new, but also in preparing it for use at the loom. Months, and sometimes even a year, are consumed in completing a single design. One of the latest I have seen is that of a cluster of American Beauty roses, intended specially for the United States, and almost as perfect as the natural flowers.

BLEACHING AND DYEING.

A linen mill in this district seldom does its own bleaching and dyeing. For the first, favorable grounds are necessary; for the second, a separate establishment with separate machinery must be provided. So, there are parties who make a business of bleaching, with grounds as near as possible to factories. Dyeing establishments do not purposely locate near linen mills, as but little of the latter's product is colored. They are prone to establish themselves in the midst of woolen and cotton industries. Hence, the linen maker wishing something colored must usually send the article 40 or 50 miles from his factory.

MOTOR POWER.

Steam is the chief motor power in flax and linen mills, though they are often equipped for water power also. Water is of course far cheaper than steam. The cost of equipment is 10 per cent less, while the cost of operating is at least ten to one in favor of water. But the latter is too unstable in volume to be solely relied upon, even in a country so rain soaked as Bohemia.

TRADE COMPETITION.

The scarcity of orders causes a fierce and determined competition among sellers of linens. A visiting buyer need not go out into the linen district, which is a tiresome day's journey from this city.

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He often prefers to make the trip, but he need only send out his card, and the linen manufacturers and dealers will come to him en masse. The high price of linen yarn, based on the enhanced price of flax caused by crop failures, is all that prevents linen goods from dropping to a very low selling figure. Linens have, in fact, advanced 10 to 15 per cent in price during the past two years, but that is substantially a great reduction, since flax in the same period has doubled in cost.

There is no agreement as to prices among producers of linens, and none is possible at present. The buyer does not literally name the price, but he can materially affect it. The utmost the seller can do is to protect himself from actual loss. Good flax crops in Russia for two or three years would be a priceless boon to him. The reports from that country as to this year s crop are favorable.

RUMORED AMERICAN TARIFF REDUCTION.

According to a rumor current in the linen district, heard on every hand and generally accepted as reliable, the import duty on linens is to be materially reduced in the United States—15 per cent, the rumor avers. It affects manufacturers variously. Some rejoice, believing that such a reduction would greatly increase the American demand for linens. Others are depressed, fearing that the expectation of a reduced duty would operate as a temporary restraint upon trade; and to them a present active demand is of vital consequence. It is impossible to trace the rumor to its source, but it probably grew out of the discussion going on in the United States and referred to by the European press respecting reduction of duties on articles not competing with our own products.

DECLINE OF FLAX CULTIVATION IN EUROPE.

Comparatively little flax is now grown in Bohemia. The area of cultivated land devoted to agriculture is 5,500,000 acres, of which only 50,000 acres are now given to flax. The yield thereof last year was 31,000,000 pounds of bast and 14,000,000 pounds of seed. Ten times this area is given to wheat, fifteen times to potatoes, and twenty times each to rye and barley. More acreage is given to pulse than to flax. The area of culture and the flax yield have steadily declined, until now they are but a small fraction of what they were a generation ago. This decline has been universal in all Europe outside of Russia, where the culture of flax has steadily augmented—the acreage this year being greater than ever before. Farmers in Bohemia ceased raising flax because it was unprofitable, devoting

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their land to other products, particularly to beets, which find a lucrative market as cattle feed and for sugar making.

Statistics show that the decline in flax raising in England, France, Germany, and Austria since 1865 amounts to 65 per cent. Notwithstanding a liberal Government premium paid for flax culture in France, the acreage in that country has been reduced nearly 50 per cent since 1895 alone. In Austria, there were sixty-nine flax-spinning mills in 1872; now, there are but thirty. This decrease is not wholly due to the decline of flax raising, but was partly caused by the substitution of cotton goods for linens in the Austrian army, navy, and public institutions.

A curious circumstance, which excites inquiry and speculation, is that much of the comparatively little flax grown in Bohemia is exported to Germany, the spinners there outbidding those in this country. Oddly enough, the official records show that Austria imported more flax from Germany than she exported thither in 1900, though only one-third the quantity which she imported from Russia. Bohemia imports not only more flax than she exports, but also more than her gross flax product.

FRANK W. MAHIN,

REICHENBERG, *November 19, 1901.* *Consul.*

EXPOSITION AT TETSCHEN, BOHEMIA.

An exposition of general manufactures will be held at Tetschen, Bohemia, from July 15 to September 15, 1902.

Tetschen is a growing town of 10,000 population, located on the Elbe River. Its importance is relatively much greater than its size, as it lies close to the frontier of Germany, and customs examinations and train changes occur there.

Several public buildings will be used for the exposition, and space therein should be engaged by February 1, to insure against disappointment. Exhibits can not be placed, however, before June 1, and must all be on hand by July 10.

It is expected that reduced freight rates for exhibits will be secured on the railroads and the Elbe River, and that the tariff laws will be suspended for their benefit.

The exhibits will be divided into twenty-seven groups, as follows: (1) Clay and glass ware; (2) building materials; (3) chemical products; (4) foods and drinks; (5) furniture and wooden ware; (6) textiles and clothing; (7) leather and hardware; (8) metal wares; (9) machinery; (10) musical instruments; (11) mathematical, phys-

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ical, and surgical instruments; (12) paper, printing, and photographic products; (13) educational articles; (14) antique and modern art products; (15) agriculture and forestry; (16) garden and orchard; (17) navigation; (18) mining and smelting; (19) electricity; (20) travel; (21) hunting and sporting; (22) hygienic articles; (23) aids to progress; (24) fire extinguishers; (25) inventions; (26) amateur work; (27) politics.

The management of the exposition is particularly desirous of exhibits from the United States, and will offer every reasonable facility and inducement to secure them. All desired information can be gained by addressing Der Vollzugs-Ausschuss der Ausstellung, Tetschen, Bohemia.

FRANK W. MAHIN,
Consul.

REICHENBERG, *October 31, 1901.*

OPENING FOR AMERICAN MACHINERY IN BOHEMIA.*

Nearly everything made in the United States could be sold in this district (Reichenberg), but the greatest opportunity of all is for spinning and weaving machinery. In previous reports, I have noted the absence of American machinery in Bohemia. Of the approximately 2,000,000 flax, wool, and cotton spindles and of the many thousand looms operating in this district, not one was made in the United States. Our consuls have at sundry times sought to change this condition by opening correspondence with makers of such machinery in the United States, but have never been able to persuade the latter to enter aggressively into the field. It is true they have always been ready and willing to fill orders, but unfortunately a merely receptive state does not answer. Most of the factory machinery in this district comes from Great Britain, some from Germany, and a small part is of local production. The field is so great as to be worth a vigorous and persistent effort to get a footing in it; but nothing can be done with circulars and trade periodicals, especially when printed in English. Industrious, German-speaking agents are essential; it would be better still to have resident agents on the ground, able to keep a watchful eye on the situation and to be constantly in close touch with factories.

During the past summer, a firm at Dresden, Germany, advertised American farm machinery in a Reichenberg newspaper. Soon thereafter, and possibly as a result thereof, I saw an American mower at

* Extract from annual report, to appear in full in Commercial Relations, 1901.

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work in a neighboring meadow—the first and only American machine I have seen in this district. But it is an entering wedge, and inspires hope for the future.

No reaper has yet invaded a grain field in this section, the sickle still holding sway in the harvesting of cereals, and thrashing is still done with the flail, wielded by women, who work in quartets.

FRANK W. MAHIN,

REICHENBERG, *October 31, 1901.* *Consul.*

LOCOMOTIVE INDUSTRY OF AUSTRIA.

The locomotive industry of Austria comprises five different establishments, employing at present 5,200 workmen, viz: The machine works at Florisdorf, with 1,300 men; the machine shops of the State Railway Company at Vienna, with 1,300 men; the locomotive works at Wienerneustadt, with 1,400 men; the Kraus Machine Factory at Vienna, with from 400 to 500 men; and the Bohemian-Moravian Locomotive Works at Prague, with 800 men. The total number of men employed in normal times is about 6,000.

CAPACITY AND EARNINGS.

The total annual capacity of the five establishments is about 400 locomotives, and their annual earnings are between 20,000,000 and 25,000,000 crowns ($4,060,000 and $5,075,000).

The average price of a common locomotive without tender is 50,000 crowns ($10,150). More powerful machines for express trains range in price from 75,000 to 100,000 crowns ($15,225 to $20,300). The number of the latter type of machines built in Austria is, however, comparatively small.

PRESENT CONDITION OF THE INDUSTRY.

The various establishments have at present orders for 92 locomotives and 24 tenders from the State, and for some 20 locomotives from railroad corporations doing business in Austria.

Foreign orders were quite frequent in former years, and even as late as 1900 no less than 60 Austrian-built machines went to Belgium and France. During the present year, however, the only foreign order received has been one from Egypt for six locomotives.

Unless new contracts are obtained in the near future, four of the five locomotive-building establishments will be without work within six months. In fact, the blacksmiths and turners will be left idle much sooner—in January or February, at the latest.

A representative of the locomotive industry states that when new orders are received it usually takes from two to four months

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to procure the necessary material. If this be true, an interruption of work in some of the departments would seem unavoidable, and the Government orders, which I recently reported* as being under consideration for the relief of this industry, can not come any too soon.

FREDK. W. HOSSFELD,

TRIESTE, *November 15, 1901.* *Consul.*

AMERICAN LOCOMOTIVES IN FRANCE.

A great deal of interest has been manifested in this portion of France in the experiments of the Paris, Lyons, and Mediterranean Railway Company—the most important railway corporation in this country—in importing a number of American locomotives. The first delivery was made in this city in March, since which time the locomotives have been in process of erection in the company's shops at Arles. I have been informed by one of the officers of the company that after these machines had been erected, the controlling forces of the roadmaster's department objected to their use, because of the fact that the weight was unevenly distributed over the various sets of wheels. It was thereupon concluded to make such changes in the mechanism as would evenly distribute the weight to the satisfaction of the roadmasters. This has now been done, and the machines are in partial commission. While they are thus, indeed, American locomotives, it does not appear that they are absolutely of the type commonly manufactured in the United States. My informant tells me that in preliminary runs these locomotives maintained a speed of 71.45 miles per hour.

A local newspaper of to-day supplies these additional details:

Yesterday morning for the first time the rapid express No. 7 was conveyed from Avignon to Marseilles by one of the new American locomotives erected at Arles. This machine, No. 2999, was attached to a train of four large cars of the first class, weighing 34 tons, and two baggage cars, the total weight being 181 tons. The mining engineers charged with the control of this matter have been making recently, in connection with other principal agents of the company, numerous experiments with these machines between Miramas and Arles. The rates of speed attained have exceeded at certain moments 77.67 and 80.77 miles per hour upon this portion of the track, which, by reason of its favorable condition, lends itself better than any other to these interesting and important experiments, the results of which, from the point of view of regularity of speed and general stability of these new engines, have been most satisfactory.

ROBERT P. SKINNER,

MARSEILLES, *November 6, 1901.* *Consul-General.*

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* See ADVANCE SHEETS No. 1212 (December 12, 1901).

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AMERICAN TRADE OPPORTUNITIES IN FRANCE.

There are some American utilities with which the French are unacquainted. Among those that have particularly attracted my attention are:

HEATING APPARATUS.

France is a country in which the most astonishing variations of temperature occur, and its inhabitants pay yearly nearly 1,000,000,000 francs ($193,000,000) for various methods of warming themselves. On coal, about 540,000,000 francs ($104,000,000) are spent; on wood, about 360,000,000 francs ($69,480,000); and the rest goes for petroleum, methylated spirit, and gas. Wood, which before the introduction of coal was the staple fuel, is now the luxury of the rich. In many of the cities, gas has ousted charcoal from the kitchen; one reason being that, according to French taste, there is nothing like gas for certain operations, such as grilling a steak, because the heat can be applied from above.

There is not in this city (Rouen) a hot-water or steam radiator. Heat is furnished by coal stoves, grates, and occasionally furnaces. All the principal offices here have stoves, and the proprietors do not seem to know or care for anything better. Some of the dealers in stoves, stove appliances, heating apparatus, etc., in Rouen are:

Andréotta, 1 place Purcelle.
Defosse fils, 4–6 rue Basnage.
Drély Jeune, 10 rue Amitié.
E. Langlois, 144 rue E.-de-Robec.
Hamel, 65 rue Amiens.
J. Lani, 34–36, rue Hopital.
Vve. Tardivet, 15 rue Panneret.

LIGHTING APPARATUS.

Electricity, gas, petroleum, and candles are the chief sources of light; candles are most common, and are exclusively used throughout the country districts of Normandy by rich and poor alike. In the advertisements of two of the best hotels in this city, emphasis is laid upon the fact that guests will have the conveniences of electricity. In the business houses of Rouen, gas is principally used, electricity but very slowly superseding it. A good lamp—one that gives a bright light and uses little oil—would, I believe, meet with success. The French lamp is at best but a poor affair, generally with a wick arranged to give a circular flame, and with a tall chimney. It burns considerable oil and emits a feeble light, while

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the price is from 50 to 100 per cent higher than the same article would cost in New York. I have never seen anything like the Rochester burner here, or any apparatus to enlarge the flame.

The tariff on lamps per 220 pounds is as follows:

Porcelain, brass, iron, and glass lamps	$11.58
Metal lamps:	
Nickel-plated	28.95
Gold or silver plated	48.25

The tariff for mountings, in case of detachable lamps, is $1.54 per 220 pounds; but the bowl and permanently connected parts pay as above. While these figures are official, I would not advise American exporters to depend upon them. To know accurately, it is always better to submit a sample. The principal merchants in Rouen who deal exclusively in lamps are:

R. Cardon, 66 rue Jeanne d'Arc.
Leon Gruson et Cie., 49 rue Moliere.
Lelandais, 84 rue Jeanne d'Arc.
Malcape, 49 rue Ours.
Wittorski-Hachette, 40 rue Jeanne d'Arc.

BARBER CHAIRS.

There is in this district an opportunity for the introduction of barber chairs. The best barber shops in Rouen, a city of over 150,000 inhabitants, have straight-backed, cane-seated armchairs, with a crude detachable head rest, all of which could be bought anywhere in the United States for $2.

The patronage of barber shops in Normandy is large; a shave can be had for 5 or 7 cents.

As a general rule, the hairdresser here takes great pride in his work; he likes keen razors, clean mirrors, and an attractive shop, and it would be strange if the luxurious American barber chair did not appeal to him.

While barber chairs are not specially mentioned in the tariff schedule, they would very likely be classed under one of the following heads (per 220 pounds):

Furniture of bent wood:	
Plain	$3.09
Ornamented	11.19
Furniture other than that of bent wood:	
Chairs of common wood, not carved, inlaid, or ornamented with copper	2.12
Chairs of cabinetmaker's wood, not carved, inlaid, or ornamented with copper	3.86
Chairs of any sort of wood, covered, inlaid, or ornamented with copper	5.79

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To know accurately, however, it is safer always to submit a sample.

The addresses of some of the largest barber shops in Rouen are as follows:

M. Aché, 29 rue Grand-Pont.
M. A. Amel, 163 rue Beauvoisine.
M. Delacroix, 97 rue Jeanne d'Arc.
M. Daleinne, 74 rue Jeanne d'Arc.
MM. Desleux, 21 rue Jeanne d'Arc.
M. Martin, 13 rue Grand-Pont.
M. Nicolle, 13 quai du Havre.
M. Fleury, 38 quai de Paris.
M. Hebert, 78 rue de la République.
M. Laquèvre, 74 rue de la République.
M. Lemercier, 47 rue Jeanne d'Arc.

CASH REGISTERS.

So far as I have seen, there is not a single cash register in Rouen. Every shop or store has its cashier, usually a member of the proprietor's family—the wife, or daughter, or sister—who does all her sewing at the desk where the purchases are paid for, the clerk never being allowed to handle any money. This old-fashioned and supposedly economical custom would be hard to overcome, and those who try the introduction of registers need not look for quick results, unless they are shown to aid rather than usurp the work of the cashier. If a market were once created, it would undoubtedly yield large returns.

It would seem that the best field for trial is offered by the numerous cafés, where sales are constant from morning until late at night.

THORNWELL HAYNES,
ROUEN, *November 22, 1901.* *Consul.*

OILS AND OIL SEEDS AT MARSEILLES.

The following extracts are from the annual report (1901) of Consul-General Skinner, of Marseilles:*

Although this is the most important primary market for olive oil in France, it singularly happens that American buyers, to a very large extent, draw upon other sources for their supplies. The production of virgin olive oil has been somewhat limited of late in

* To appear in full in Commercial Relations, 1901.

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many centers from which it was formerly taken, and the quality has not always been good, but the more expert packers have nevertheless succeeded in supplying table oils of satisfactory flavor, owing to their close attention to their business and the willingness of the public to accept a composition. The first impulse of those familiar with the situation is to denounce these admixtures as a species of fraud, but it would be more correct to say that public taste is no longer contented with pure olive oil, and really demands the oil of commerce, which, as it stands, represents the knowledge gained by the manufacturers of the flavor desired by the consumer. On this subject, M. Laurent Jeansoulin has prepared a report at the request of the Chamber of Commerce, in which he says:

> In former times, a sufficient market was found for olive oil in the departments of production, but this is no longer true to-day. Factories have been established producing in great quantities vegetable oils, and equally large quantities of olive oil are imported into France from Algeria, Tunis, Italy, and Spain. It became necessary then to seek an outlet for these products, and for this purpose the trade has addressed itself to the departments which had not formed the habit of consuming oil, and to the export markets. But right here a great difficulty was encountered—the taste of the consumer. Pure olive oil was found too strong, too fruity in flavor, while the pure vegetable seed oils were found flat and insipid. It was then, by the happy admixture of olive and seed oils, that the trade succeeded in creating types of their product responding to the taste of the great mass of consumers. These products are sold under such generic terms as huiles mangeables, bouchables, fines, and surfines.

The oils going to the United States for edible purposes are, as a rule, the very best produced in France. The consumption in the United States is really very limited, and olive oil is more of an article of luxury than of necessity. The combinations sent to the United States consist therefore, as a rule, of olive oils originating in different localities, with doubtless occasional mixtures of vegetable oils. The idea that any considerable quantity of cotton oil is reexported to the United States in the form of edible oil will not stand analysis, for the simple reason that the quantity exported from Marseilles amounted in value to only $194,435 in 1900, while the cotton oil imported from the United States was valued at several million dollars.

The quantity of cotton oil received in this city during the first six months of the present year shows a shortage of 5,449 tons, as compared with the first half of 1900. Prices have been growing higher and buyers have been timid. The whole oil situation has changed amazingly within the last five years. When cotton oil was first placed on sale, it came to Marseilles as practically its only foreign market. Prices were low, and the local oil-crushing industry was

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paralyzed. Since that time, the many virtues of cotton oil have become better understood, and it finds a ready sale throughout the world. Marseilles buyers desire it mainly for the manufacture of soap, and now, instead of coming to this city as its only market, it comes here as a last resort. It can always be sold; the question is merely one of price. In the meantime, the importations of vegetable seeds have about resumed their old-time proportions, at approximately old-time prices. One of the most interesting incidents in the oil trade during the past six months has been the arrival of several hundred tons of decorticated peanuts from the United States, the first ever imported from America. The quality is understood to have been very satisfactory, and there will be a market for as many as can be forwarded from the Southern States. It has always been understood heretofore that the cost of labor in the United States would prevent our successful competition with the African and Indian exporters.

Copra shows quite a falling off as compared with the first six months of 1900, the local conviction being that large surplus stocks in the Philippine Islands have been exhausted, and that hereafter only a regular annual production may be counted upon.

While amazing improvements have been made in the United States in the matter of perfecting the manufacture of oil, there are processes followed in Marseilles which our manufacturers might perhaps profitably study. A number of concerns are successfully engaged in clarifying American cotton oil, copra, and other oils, which are sent to the important oil-consuming markets for edible purposes, and bring very high prices. As an instance of what has been done, I might mention that all of the English cotton oil sold in Marseilles is manufactured from Egyptian seed, which is considered poorer in quality than American seed, the British oils being regularly quoted at a price materially lower than that obtained by prime American oils. In spite of this recognized inferiority of Egyptian seed, at least one Marseilles firm buys this raw material in Egypt, converts it into oil in Marseilles, and refines the product with such skill that the entire output of the factory is marketed at over $2 more per 220 pounds than the very best American cotton oil known to the trade.

Statistics for the first six months of the year show a shortage in the gross amount of seeds and cotton oil of 11,660 tons, as compared with the year before, which circumstance, taken by itself, would indicate the prospect of a continued rise in prices and a continued demand for American oil. The statistics for the first six months of the year are:

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Importations of oleaginous seeds at Marseilles.

Seed.	First 6 months—		Total for 1900.
	1901.	1900.	
	Tons.	*Tons.*	*Tons.*
Sesame	40,500	55,062	67,470
Peanuts:			
Decorticated	32,426	18,742	106,231
In shell	61,179	66,728	.....
Linseed	5,455	5,354	10,242
Colza	1,787	1,712	4,015
Poppy	1,270	466	2,973
Castor	14,087	7,117	.....
Miscellaneous seeds	12,206	4,749	21,048
Copra:			
French origin	939	2,517	104,207
Foreign	43,092	56,965	.....
Palm kernels	3,751	4,801	8,294
Mowrah	24	650	(*)
Miscellaneous concrete stock	2,243	307	(*)
Total	218,959	225,170	350,179

* Missing.

Shortage of first half of 1901, as compared with 1900, 6,211 tons.

Total imports, 1900, 350,179 tons; 1899, 325,974 tons; 1898, 309,107 tons.

Importations of cotton-seed oil at Marseilles.

Country.	First 6 months—			
	1901.		1900.	
	Barrels.	*Kilograms.*	*Barrels.*	*Kilograms.*
United States	117,065	20,909,838	145,948	25,736,159
England	639	137,411	4,235	785,208
Miscellaneous	354	71,823	271	47,159
Total	118,058	21,119,072	150,454	26,568,526

Shortage, as compared with 1900, 5,449,454 kilograms; in storage for better offers, July 26, 2,000 barrels.

FRENCH COLONIAL TRADE.

In his annual report (to appear in Commercial Relations, 1901), Consul-General Skinner, of Marseilles, speaks of the development of that city as the commercial capital of the African colonies of France and other powers. By means of direct steamer communication with the north, east, and west coasts of Africa, and largely also through the initiative of four important corporations, whose factories dot the coast line and whose successful barter has built up immense fortunes, a large proportion of the African business has

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been centralized in Marseilles. The total colonial commerce of France for 1898 was $175,591,400, of which the share of Marseilles was $102,275,372. Colonial commerce, the consul-general notes, now represents about one-tenth of the total business of the Republic. He compares the total commerce of the French colonies in Africa with the share enjoyed by France, in the following table. It will be noted, he says, that the total business of the seven colonies under consideration has increased $30,627,165 in the five years 1895–1899, while the increase of trade with the French Republic has been $31,389,987.

Comparative table of French colonial trade, 1895 and 1899.

Colony.	1899.		1895.	
	Total.	With France.	Total.	With France.
Algeria	$128,588,932	$108,447,665	$113,567,111	$91,957,166
Tunis	20,441,016	17,096,905	16,469,236	9,580,057
Senegal	14,206,007	11,252,865	7,856,054	5,334,231
French Guinea	4,846,037	912,383	1,988,918	267,717
Ivory Coast	2,364,856	786,282	1,294,267	281,390
Dahomey	4,838,154	1,400,022	4,065,369	1,418,422
French Kongo	2,628,467	780,690	2,045,349	447,942
Total	177,913,469	140,676,812	147,286,304	109,286,925

Mr. Skinner continues:

While a very fair degree of progress has been made in the development of the French West African colonies, the organization has consisted more particularly in the application of civilized administrative methods than in any very important increase in commerce.

The five French colonies of the west coast had a commercial movement of $12,159,000 in 1891, which had increased to $28,178,000 in 1899—that is to say, 130 per cent in eight years. During the five years from 1895 to 1899, the Kongo Free State, on the other hand, had pushed its commercial movement from $4,439,000 to $9,650,000, and its railroad had been in operation but two of the five years. The great staple product of the west coast is rubber, the exports of which during the last five years, from that part of the west coast controlled by Belgium, Germany, England, and France, amounted in value to $38,600,000; the share in this of the French colonies, greater in extent than all of the others put together, was but $6,755,000, and $4,246,000 of this was accounted for in French Guinea.

The work of civilization in the meantime goes on, and the French authorities have in construction railroads in Dahomey, French Kongo, from the Senegal to the Niger; in the island of Madagascar, from Tamatave to Tananarivo; and in Abyssinia, on the east

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coast, from Djibouti, the tiny French colony on the Red Sea, to Harrar. The commercial movement between the Empire of Abyssinia and Djibouti has now reached a total of about $3,860,000 per annum, and is rapidly growing. The railroad constructed under the joint direction of France and the Abyssinian Emperor is being rapidly completed, and it will be but a short time before the 450 kilometers (279.6 miles) between Harrar and the capital, Addis Abbaba, are completed. In this region, the United States should take a very active interest. We have at present a very thriving trade with the Abyssinian Empire, mainly in our staple products, such as cotton and petroleum. This region is perhaps the most promising to our people of all the portions of Africa, and the least known. The following table shows somewhat in detail the value of the trade of the entire west coast of Africa, from Gibraltar to the Cape, excluding Cape Colony:

Total commercial movement of colonies (importations and exportations).

Colony.	Length of coast.		1891.	1895.	1899.	Belonging to—
	Kilometers.	*Miles.*				
Morocco	1,200	745.6	$14,700,911	$13,510,000	$11,194,000	Turkey.
Mauritania	600	372.8	.....	1,871	4,847	Spain.
Senegal	1,000	621.4	6,013,108	7,956,065	14,205,958	France.
Gambia	20	12.4	1,694,172	1,929,066	2,383,164	Great Britain.
Portuguese Guinea	220	136.7	106,536	389,088	991,055	Portugal.
French Guinea	260	161.5	1,433,376	1,988,479	4,806,279	France.
Sierra Leone	300	186.4	4,492,268	4,245,647	4,329,569	Great Britain.
Liberia	460	285.8	.....	.....	482,500	Independent.
Ivory Coast	480	298.2	1,319,704	1,294,258	2,364,829	France.
Gold Coast	450	279.6	6,513,750	8,730,162	10,106,252	Great Britain.
Togo	40	24.8	.....	1,302,750	1,402,991	Germany.
Dahomey	100	62.1	3,694,020	4,065,352	4,838,124	France.
Lagos	900	559.2	6,296,625	8,209,255	8,640,031	Great Britain.
Nigeria			7,527,000	7,697,226	7,272,626	Do.
Kamerun	400	248.5	2,136,510	2,350,740	3,811,750	Germany.
Rio-Muni	150	93.2	.....	.....	.....	Spain.
Gaboon Kongo	900	559.2	810,600	2,045,414	2,569,795	France.
Kongo Free State	100	62.1	3,408,959	4,624,666	11,270,042	Belgium.
Angola	1,200	745.6	8,492,000	8,598,500	12,504,663	Portugal.
German Southwest Africa.	1,250	776.7	.....	.....	2,474,720	Germany.

FRENCH-ALGERIAN TRADE.

Among the colonies and dependencies of France, there is none the commerce of which has been so advantageous to the mother country as that of Algeria. Beginning with 8,000,000 francs ($1,600,000 in round numbers) in 1830, it rose to $10,000,000 in 1840 and to nearly $13,000,000 in 1850; to $31,000,000 in 1860, to over $60,000,000 in 1870, and to $95,000,000 in 1880. During the years 1881–1884 considerable railroad building was carried on in the

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colony, opening up large sections of the country to cultivation, and the exchanges with the mother country continued to increase. In 1890 they were $109,000,000; in 1898, $117,000,000; and in 1900, $129,000,000.

Of the $100,000,000 worth of goods which France sells to her colonies, $54,000,000 worth goes to Algeria. The laws regulating the commerce of France with her colonies are so framed as to discriminate in favor of French products, French shipping, and every interest of the mother country.

It is stated that the imports into Algeria from other nations are steadily declining. The exchanges in exports and imports between France and the colony have almost equally balanced during the past fifty years. The articles in which an augmentation of sales to Algeria are noted are cotton fabrics, beer, wines, preserved meats, fruits and vegetables, edible pastes, and rice from Indo China.

France now buys from foreign countries wheat, tan bark, olive oil, cork, wool, beef, and mutton, which she hopes in the near future to import direct from her citizens in Algeria.

At the meeting of the National Agricultural Society, reported in the Journal Officiel of November 12, 1901, Algeria was the chief subject of discussion. Dr. Trabut said that the cultivation of peaches, plums, and cherries had not thus far been very successful in Algeria, but that orange culture was very prosperous, above all in the mountainous regions. Fig culture had become one of the great resources of the country, some 27,000,000 pounds of figs having been exported in 1899. The exportation of dates is increasing. Banana trees have been successfully cultivated only on the seacoast, but this plant demands exceptional care—shelter, rich, warm soil, and a great deal of water.

The speaker urged the wider cultivation of the olive. Algeria does not now produce enough oil for her home consumption, yet there are hundreds of thousands of wild olives in the colony.

I have heard a great deal about the wheat-producing capacities of Algeria. Members of agricultural societies tell me that they expect in a few years to be able to make up for any deficit in their home crop by imports from this colony. Whatever reciprocity arrangements may be made between France and the United States, this country counts upon being supplied within a short time with all the fruits and food stuffs she needs from Algeria.

JOHN C. COVERT,
Consul.

LYONS, *November 18, 1901.*

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NEW GELATIN FACTORY IN FRANCE.

A new gelatin factory has just commenced manufacturing near the port of La Pallice. This may be of interest to Americans, as it is expected that a large proportion of the product of the factory will be sold in the United States. It is owned and operated by a firm known as Jules Bertrand & Co., and its equipment is as nearly perfect as modern science can make it. The motive power in each of the several buildings is electricity, supplied from a centrally located generator to motors distributed throughout the premises. Part of the machinery—including several special pumps—is of American manufacture. The production will consist of fine glues and gelatins, the latter including the very best bleached white gelatin. The bones used have up to the present time been received from India, as it is claimed that they produce better qualities of certain kinds of gelatin. The question of importing American crushed bone would receive serious attention on the part of the manager, Mr. Bertrand. The price per ton delivered at La Rochelle should be stated. It should be remembered that bone dust or bone meal is not desirable for the supplies of this factory, what is known as crushed bone only being used. Bone meal, when subjected to acids in the vat, becomes a mass too solid to be readily worked, and great difficulty has been found in cleaning and bleaching the animal matter which results from the bones being subjected to chemicals.

The system is what is known as the modern acid process. The acids are produced in a neighboring factory. The capacity of the gelatin works is 1,200 tons per year, the actual amount produced being a little less than half of that. One of the most striking features of the establishment is the cleanliness seen everywhere, and the absence of unpleasant odors, such as are usually found in institutions of this kind.

GEORGE H. JACKSON,

LA ROCHELLE, *October 3, 1901.* *Consul.*

TRAMWAYS IN NANTES.

In reply to inquiries from a New York journal,* Consul Brittain writes from Nantes, November 14, 1901:

The street railway company is called "Compagnie des Tramways de Nantes," with the main offices at No. 9 rue de Clichy, Paris. The capital is 2,000,000 francs ($386,000). The first part of the system was constructed in 1878–79, and was about 3¾ miles long. It now

* Copy of this report has been sent to the editor.

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covers almost 12 miles, and there are under construction lines which will cover 4 miles more. The average price for single track is about $12,000 per mile. The Nantes system comprises fifty-four tram cars, propelled by means of compressed air, known as the "Mekarsky" method. In the cylinders under the cars built in 1897, the pressure of air is 60 kilograms to the square centimeter. These cars cost 23,500 francs ($4,535.50). The operating expenses of the line per mile are 8 cents.

The weight of the cars equipped for sevice is about 10 tons each. The motors rest upon the two axles, coupled together at a distance of 70.87 inches. The diameter of the wheels is 27.56 inches. The motor cylinders are placed behind, on the outside of the girders, and have a diameter of 6.5 inches and a course of 9.84 inches. The distribution is made by means of a groove. There are nine compressed-air reservoirs, and these are charged with air at a pressure of 60 kilograms to the square centimeter, or 132 pounds to 0.155 square inch. They rest transversely under the car. These reservoirs are divided into two groups of unequal volume, and the reservoirs in each group are connected with each other by means of tubes. The first group, called "batterie," is composed of seven reservoirs, which are used when making ordinary speed. The other two, called "réserve," are used for hill climbing or extraordinary grades. These reservoirs are unequal in diameter and length, in order to utilize as much as possible the available space under the cars, and are constructed of sheet steel 11½ millimeters (0.4531 inch) thick. The air coming from these reservoirs passes into an upright cylinder, or reservoir, filled with water heated to a temperature of 356° F. The air enters at the bottom, passes through the hot water to the top of the reservoir (becoming thoroughly heated), and enters the motor cylinders by means of a regulator operated by the machinist, who stands on the front platform of the car.

DRAWINGS FOR FRENCH PATENTS.

Under date of November 15, 1901, Consul-General Gowdy, of Paris, reports that the French Minister of Commerce has issued a decree dated September 3, 1901, to come into force on January 1, 1902, which reads (translated) as follows:

Article 1.

Specifications for patents and certificates of addition, in conformity with article 6 of the law of July 5, 1844, shall be correctly written in ink or printed in good and legible characters upon paper having a uniform size of 33 by 21 centimeters (12.992 by 8.268 inches), with a margin of 4 centimeters (1.575 inches). The original copy shall be written or printed on one side of the sheet only.

No drawings shall appear in text nor in the margin of specifications.

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Article 2.

Drawings shall be made on sheets of paper having the following sizes: Thirty-three by 21 centimeters (12.992 by 8.268 inches) or 33 by 42 centimeters (12.992 by 16.536 inches), with an inside border line of 2 centimeters (0.787 inch) in such manner that the drawing shall be comprised within a border line of 29 by 17 centimeters (11.417 by 6.692 inches) or 29 by 38 centimeters (11.417 by 14.961 inches). This border line shall be constituted by a single line having a thickness of about one-half of 1 millimeter (0.02 inch).

In case it should be impossible to illustrate the patented article by means of figures inclosed within a border line of 29 by 38 centimeters (11.417 inches by 14.961 inches), the inventor shall be at liberty to subdivide one figure into several portions, of which each shall be drawn upon a sheet having the above-indicated size. The section line of figures shall be indicated by letters of reference.

The figures shall be numbered without interruption from the first to the last by means of Arab numerals.

If the sheets be numbered, the numbers shall appear outside of the border line.

The original drawing shall be executed in ink, with regular and perfectly black lines, upon bristol board or other white paper, thick and smooth, allowing of reproduction by photographic process. No tint, shades, or wash shall appear therein; if necessary, these shall be replaced by regular and properly spaced cross lines.

The duplicate drawing shall be on cloth or paper, and may be colored.

The drawings shall be made of a sufficient size, without exaggeration, so that it shall be possible to ascertain exactly the article to be patented from a reproduction reduced to two-thirds the size of the drawings. The scale indicated shall be according to the metrical system.

The drawings shall not contain any descriptive matter or indication other than the numbers of the figures and the letters (capital or small) or numerals of reference, the height of which shall be from 3 to 8 millimeters (0.118 to 0.315 inch). None but French characters shall be used.

Any descriptive matter considered indispensable by inventors for the comprehension of their drawings shall be inserted by them in the body of their specification.

The signature of the inventor or his attorney shall be written outside the border line.

The drawings shall not be folded; they shall be handed in at the time of filing, either flat or rolled, so as to be free from folds or creases.

Article 3.

No wood engravings of the invention shall be received or illustrations other than drawings prepared as above described, unless they be of a nature suitable for reproduction by some process based upon photography.

Article 4.

The present rules shall apply to applications for patents the filing of which shall take place from January 1, 1902.

Article 5.

Until July 1, 1902, and merely as an essentially provisional measure, specifications and drawings which are not prepared according to the requirements contained in the present decree shall be returned to the inventor with a request that he shall furnish new and formal documents within one month.

A copy kept at the National Patent and Trade-Marks Office shall serve to establish conformity between the documents successively filed.

Should the applicant not comply with the above-mentioned request within the

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appointed time, the application shall be rejected in accordance with article 12 of the law of July 5, 1844.

In case of justified necessity, the delay granted to the inventor may be increased on his request.

Article 6.

The Director of the National Patent and Trade-Marks Office is entrusted with the execution of the present decree.

MILLERAND,
PARIS, *September 3, 1901.* *Minister of Commerce.*

AMERICAN COAL IN FRANCE.

The American coal producer should watch for opportunities in Europe. These are now offered by the strike in the mining districts in France, the strike in South Wales, the constantly increasing cost of mining coal from the deep pits in Wales, the favorable impression the American product has made abroad, and the low rates for ocean freight.

At present, the better grades of Welsh steam coals cost about 23 francs ($4.43) at Cardiff. To this must be added the export tax, freight, insurance, French duties, and other incidental expenses, which bring the cost price of the coal in Nantes to about 36 francs ($6.94). A leading coal dealer informed me yesterday that he has been offered American anthracite coal at 26s. ($6.31) c. i. f., and that anthracite from Swansea costs 28s. ($6.80), in addition to the freight. I think he would be willing to try a 2,000-ton cargo from America. Recently, a cargo arrived at Bordeaux, and a 4,000-ton cargo has just arrived at Rouen. Several cargoes of American steam coal have recently arrived in St. Nazaire for the French Steamship Company, and I am informed the coal gives good satisfaction. A 5,000-ton cargo of steam coal will arrive in St. Nazaire in a few days, consigned to the Paris-Orleans Railway Company.

JOSEPH I. BRITTAIN,
NANTES, *November 8, 1901.* *Consul.*

INFLUENCE OF AMERICAN COAL ON THE INTERNATIONAL MARKET.

For some time past, the German press has been pointing out the danger threatening the European coal industry through the introduction of the American product. Some German writers have prophesied a complete transfer of the source of supply of coal for the international market. Dr. Wiegand, general manager of the North German Lloyd Steamship Company, recently gave an interview on this subject to the editor of Kirchhoff's Technische Blätter.

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Dr. Wiegand is of the opinion that the American coal will not exercise an immediate influence on the European coal market, but will doubtless affect it within a reasonable space of time. A direct importation of American coal to North European ports on a large scale is considered by him to be out of the question, for the reason that the extra cost of sea freight would more than counterbalance any advantage possessed by the American coal due to the lower cost of mining. This sea freight will remain comparatively high for the export of American coal, because the American coal steamers can not count on return freight to the United States from Europe, and the coal cargo would therefore have to cover the expenses of the voyage from the United States to the European ports, as well as the costs of the return trip. In ports which are accessible to European coal by water shipment only, the price of the coal would naturally be increased by the cost of the sea freight; but even here the United States would be at a disadvantage as compared with England, as larger quantities of staples are imported into that country, and the coal steamers could consequently be reasonably certain of a return cargo; while the steamers in our trade—preeminently a country of export—would generally find no cargo for their home voyage.

During the past few years American coal has been exported to Mediterranean ports. It can safely be assumed that this export will make considerable progress, and the time will come when American coal will make its appearance in sharp competition with the English product in Genoa and Port Said and other markets of the Mediterranean Sea. The same applies to all the ports of the eastern coast of South and Central America, since some of them, at least, could provide a return cargo to the United States. This forced reduction of the exportation of English coal to these markets would result in a decrease in the price of the English coal there, and at the same time would affect the price of German coal.

JAY WHITE,
Consul.

HANOVER, *October 23, 1901.*

ANTHRACITE COAL IN DRESDEN.

The strike prevailing in the South Wales coal mines is causing anxiety in this city, because these mines supply the anthracite coal consumed in Dresden.

Anthracite has already advanced in price, and these conditions have prompted one of the largest German importers of this coal, who has offices in Dresden, Berlin, and Hamburg, to go to America, with the view of purchasing American anthracite, which is considered just as good as the English product.

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I am informed that he has succeeded in closing large contracts of purchase with American mines, at such favorable prices and cheap freight rates that the imminent scarcity of anthracite need no longer be feared. The first shipment of American anthracite is expected in Hamburg at the end of this month.

CHAS. L. COLE,
Consul-General.

DRESDEN, *November 13, 1901.*

COAL MARKET IN EUROPE.

The following extracts are made from the annual reports of the consular officers mentioned (which will appear in full in Commercial Relations, 1901), in order to give an idea of the prices for coal, freight rates, market conditions, etc., now prevailing in Europe.

AUSTRIA.

Consul Hossfeld, of Trieste, October 31, 1901, says:

Previous to the year 1900, no American coal had ever found its way to this market. Of the 270,000 tons imported last year, 52 per cent came from Great Britain and 17 per cent, or about 46,000 tons, from the United States. This was a satisfactory beginning. For the first six months of this year, 35,000 tons were imported from our country. In view of the low prices now ruling for Cardiff, however, the total shipments for the year will probably not be larger than those of 1900. There will doubtless be occasional importations of our coal, and if there were a depot established at Trieste I believe that from 150,000 to 200,000 tons a year could be disposed of.

Steam coal is usually sold in Europe on long-time contracts, and when American mine owners are ready to follow this plan a large trade can be permanently established. Ocean freights have been so unsteady that the European dealer could not satisfactorily calculate the cost.

The excellent qualities of our coal are recognized here. Trieste engineers believe that good American coal is fully equal to the Cardiff product. My observation has convinced me, however, that shipments for this market should consist only of well-screened lump coal. Fine coal does not bring enough to pay its freight.

The rates of freight from Cardiff to Trieste now range from $1.82 to $1.94 per ton, according to the size of the collier, against $3.16 a year ago. The last shipment of Cardiff brought 23s. ($5.58) f. o. b. Trieste. Other British coal is quoted: Newcastle, $4.74 to $4.86 per ton f. o. b. Trieste; Liverpool and Hull, $4.62 to $4.74; Scotch, $4.38 to $4.62.

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BELGIUM.

Vice-Consul Van Hee, of Ghent, says that the local price of Belgian coal is at present about $2.50.

Consul Winslow, of Liege, October 15, 1901, says that the price of coal gradually diminished from January, 1901, to September, 1901, when a rise of from 20 to 40 cents a ton was made, with the prospect of a greater increase.

FRANCE.

Consul Prickitt, of Rheims, October 15, 1901, says that the price of good steaming coal in that part of France is $3.96 per metric ton (2,205 pounds), against $5.40 last year. Coal for heating and culinary purposes has declined at retail from $10.22 to $8.78.

Consul-General Skinner, of Marseilles, notes that business in American coal has passed the experimental stage. In spite of the decline in freight rates from Cardiff, our coal has not only held its own, but has gained in importance. The freight rate from Newport News to Marseilles is about $2.31, against $4.25 a year ago.

Consul Brunot, of St. Etienne, says that an inquiry was recently made by the large iron interests in France as to the possibility of securing coal from the United States, and they decided that the superior quality of our product compensated for the increased expenses of transportation; consequently, it may be confidently expected that in the near future our coal will have found a permanent market in France.

Consular Agent Hagelin, of Cette, says present prices for coal range from $5.40 (gas) to $6.36 (steam).

GREAT BRITAIN.

Consul Metcalf, of Newcastle-on-Tyne, says that the quotations of British coal on October 25, 1901, were: Best Northumberland steam coal, $2.74 f. o. b.; steam smalls, $1.34 to $1.40; Durham gas coal, $3.04; unscreened bunker, $2.68 to $2.77; household, $4.26 to $4.74. He continues:

It is stated that 50,000 tons of American screened steam coal

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have been bought at $4.38 c. i. f. Genoa. Of this price, $1.95 goes for freight, leaving about $2.43 a ton f. o. b. for the coal. At present, best Northumberland could not be delivered in Genoa at less than from 30 to 36 cents above this price, notwithstanding the extraordinarily low freights now ruling.

American coal has been delivered in Norway with a freight rate from Norfolk to Horten of $3.04 per ton.

A cargo of American anthracite has been sent to Berlin, and it is said it will be sold there 49 cents per ton cheaper than the equivalent Welsh anthracite.

Consul Phillips, of Cardiff, says that best steam coal is selling there at from $4.45 to $4.55 per ton.

GIBRALTAR.

Consul Sprague, of Gibraltar, gives the price of coal at that port in October as 25s. ($6.07) per ton f. o. b., for all descriptions. Most of the coal is stored in hulks in the bay for supplying ships' bunkers.

ITALY.

Consul Smith, of Leghorn, says that 1901 will show a large advance in the imports of American coal into Italy. The quantity thus far received has been bought in an experimental way; it has given satisfaction in most cases, and a contract for 20,000 tons has recently been made by a local agent with an American producer.

Consul Heingartner, of Catania, November 6, 1901, quotes the prices f. o. b. that port as follows: Newcastle, $4.56; Cardiff, $5.71; anthracite, $6.56.

SPAIN.

Consul Ridgely, of Malaga, under date of October 17, 1901, says that the prices of steam coal f. o. b. Malaga are from 18s. to 20s. ($4.37 to $4.86). He says that the publication of the United States Special Consular Reports, Foreign Markets for American Coal, in 1900, drew the attention of Cardiff producers to the danger of our competition in this line, and caused them to have freight rates on their product reduced.

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ARTIFICIAL FUEL IN BELGIUM.*

The principal, and in fact practically the only, artificial fuel manufactured in Belgium consists of a composition of coal dust made in the form of large bricks, either solid or perforated, and used chiefly as fuel for steam engines, locomotives, etc. Small bricks are also manufactured in the form of cubes or of parallelograms, in round or oval balls, and are used in place of anthracite coal for stoves built on the American system.

The material employed for the manufacture of these bricks is coal dust which has generally been previously washed. The glutinous element used in the composition is the residue from the distillation of coal tar, which residue is produced in large quantities by the manufactories for the distillation of tar obtained from the gas and coke plants. The bricks thus manufactured contain 94 per cent of coal. The coal dust is usually obtained from what is called hard coal in this country (not anthracite) and from coal which is said to be one-fourth soft.

In 1900, 1,395,910 tons of large and small bricks and balls were manufactured. In this amount is not included the production of some minor manufactories where small balls without tar residue are made from coal one-half soft.

The material used in these small balls is held together by injecting steam into the mass while it is being molded and pressed. About 1,000 tons of these small balls, without tar residue, were manufactured in 1900.

The average price at the manufactory of the large bricks and balls made with tar residue was, in 1900, 23.56 francs ($4.55) per ton.

This price in 1899 was 16.05 francs ($3.10); in 1898, 19.30 francs ($3.72); in 1897, 12.51 francs ($2.41); in 1896, 11.99 francs ($2.31); in 1893, 11.29 francs ($2.18)—at which date it reached its lowest limit.

The commercial movement in these composition bricks of coal is rather important in Belgium, and is increasing every year. In 1900, the exportation amounted to 604,864 tons, as compared with 525,625 tons in 1899.

Composition bricks of coal are manufactured at the following places:

Châtelet, by Société des Charbonnages d'Ormont.

Charleroi, by D. Evrard and Scripel & Belliére.

Châtelmeau, by Société des Agglomérés de Houille.

* Report made in answer to inquiries by a Boston firm, to the manager of which ADVANCE SHEETS have been sent.

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Marcinelle, by Société des Agglomérés de Houille Réunis du Bassin de Charleroi.

Mariemont, by Société Anonyme des Charbonnages de Mariemont.

Manage, by Société Anonyme des Charbonnages de Bray, Maurage et Baussoit.

Monceau St. Sambre, by Société Anonyme des Charbonnages de Foste-Taille.

Montigny St. Sambre, by Société Anonyme des Charbonnages Réunis de Bonne-Espérance.

Paturages, by Société Anonyme des Charbonnages de Paturages et Wasmes.

Roux, by Société Anonyme des Agglomérés de Roux.

Tilleur, by Société Anonyme des Charbonnages du Horloz.

Micheroux, by Société des Charbonnages du Hasard.

Flémalle-Grande, by Société Anonyme des Charbonnages de Marihaye.

Jumet, by Société Anonyme des Charbonnages d'Amercoeur.

Marchienne au Pont, by Dehaynin & Co.

Ressaix, by Société Anonyme des Charbonnages de Ressaix, Leval, Peronne & Ste. Aldegonde.

Marcinelle, by Fabrique d'Agglomérés de Houille L. Watin.

Bernissart, by Le Charbonnage de Bernissart.

PEAT AND WOOD.

There exist in the northwest and also in the southeast of Belgium some small plants for the manufacture of fuel from peat. As the peat in Belgium is of rather an ordinary quality, containing a great deal of earth, sand, and other mineral products, it is used for fuel purposes only in the district where it is produced. There is no exportation of this product.

There is a small amount of artificial kindling produced, which is made from sawdust and small bits of wood held together by a glutinous substance produced from the tar of wood. This kindling is pressed into the form of bricks, which are grooved for the purpose of readily dividing them into four parts.

CHARCOAL.

Charcoal is produced in Belgium, sometimes from the distillation of wood, but usually by the slow combustion of wood in charcoal kilns. The product is principally used in the refining of metals.

LAWRENCE TOWNSEND,

BRUSSELS, *November 12, 1901.* *Minister.*

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ANTWERP IVORY MARKET.

The fourth quarterly sale of this year was held on October 30, the ivory offered and sold being as follows:

Kongo:	Pounds.
Hard	130,739
Soft	15,438
Angola	742
Gaboon	18,335
Kamerun	6,342
Ambriz	3,197
Senegal	3,730
Mozambique	1,078
Siam	44
Points for billiard balls	639
Total	180,284

The total for the corresponding quarter of the preceding year was 189,311 pounds.

Notwithstanding the importance of the lots exhibited, the two days' sale was very animated and prices rose 9½ cents for teeth of all kinds, save for oversizes, for which they rose from 19 cents to 28½ cents.

For scrivailles, there were many buyers, and prices rose from 9½ cents to 19.3 cents, as also for teeth for billiard balls.

The stock on hand amounts to about 248,017 pounds, as against 217,153 pounds in 1900.

The first quarterly sale for 1902 will take place on Tuesday, February 4.

STANISLAS H. HAINE,
Vice-Consul-General.

ANTWERP, *November 7, 1901.*

LONDON DOCK CHARGES.

At the request for information of a Minnesota milling company, a Department instruction was sent to Ambassador Choate, of London, April 15, 1901, directing him to investigate the dock charges there. The complaint of the company was that "although the port of London is made a free port by act of Parliament, the London and India docks companies evade the requirements of law, to the special detriment of certain American goods, in exacting dock rates from

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flour and other products exported from the United States." Mr. Choate replies:

I have examined the matter, as far as I could, without any power to compel the production of evidence, by the aid of voluntary statements of parties more or less interested in the question and by reference to judicial decisions and to acts of Parliament bearing upon it. I have not, however, undertaken to form anything like a judicial opinion as to the merits of the question involved, but have thought that I should best serve the purpose by setting forth the facts as I understand them and the claims of the respective parties.

It can not fairly be said that the "dock companies evade the requirements of law to the detriment of American goods in exacting 'dock charges' from flour or other products exported from the United States." As the business is now done, the dock companies really have nothing to do with it.

The question in dispute or sought to be raised by the Minnesota mill owners is now controlled by contract between them and the steamship companies. As long as that contract stands, there can be no remedy for their alleged grievance, which to that extent is self-imposed. What the shippers insist upon is that they are unjustly compelled by the steamship companies to make this contract, and that the result is unfair to them; that the North Atlantic steamship lines running ships to London have combined and inserted an identical "London clause" in their bills of lading, compelling the payment of these dock charges in addition to freight; that this combination is too strong for them; that unless they accept the bill of lading with this obnoxious clause in it their flour must remain unshipped; that a resort to occasional tramp steamers, some of which also insert the London clause, would be wholly inadequate; and that under present conditions the establishment of a rival line which would omit this extra charge from its bills of lading is out of the question; that they have protested against this charge in addition to freight, but have been obliged to submit.

If an unjust exaction has by such means been inflicted upon the shippers, it can hardly be doubted that Congress is competent to provide a remedy even against such a powerful combination of all the existing steamship lines. The ultimate question must be whether the "dock charges" imposed by the "London clause" are really unjust to the shippers, and on that question an acquiescence of twelve years by the shippers without forcing it upon the attention of the Government has a decided bearing.

What is meant by saying that London is made a free port by act of Parliament is a conclusion drawn from the history of the matter

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in connection with certain provisions of the acts creating the dock companies, and of the merchants' shipping act, there being of course no provision in set terms that London is or shall be a free port.

Prior to the formation of docks in London about a century ago, the usual mode of discharging cargo was overside into barges or lighters in midstream, the barges carrying it to the wharves and quays.

The formation of docks was stoutly opposed by the powerful association of bargemen or watermen, and to save their rights and the powerful interest represented by their business, which was of great antiquity, a clause was inserted in the original and in each succeeding dock charter in substance exempting all lighters and craft entering the docks to discharge or receive goods to or from any vessel from the payment of any rates, and that the goods so discharged or received should be exempt from any payment whatever, and so the law now stands. This secured to the bargemen and to the owners of cargo the ancient right to the loading and discharge of cargo overside, even in the docks, without any charge by the dock companies, and as by the established law of shipping the freight paid to the ship always covered the discharge and delivery of cargo, unless the parties otherwise agreed, no charge could fall on the goods beyond or outside of the freight for their unlading and delivery.

In harmony with these enactments, which thus secured to the bargemen and to the cargo exemption from dock charges for unlading, it was and still is, unless otherwise agreed, the custom of the port of London that a consignee of goods has the right to the delivery of his goods overside and therefore free from landing charges, if he is ready and willing to take delivery of the same within twenty-four hours after the arrival at her place of discharge of the vessel in which the goods are borne. This, I take it, is what is meant—and all that is meant—by London being a free port by act of Parliament.

While such was the custom of the port, if for his own convenience the shipowner discharged the cargo or any part of it on the dock quay, the dock owners had the right to levy a charge upon it, and this charge, so far as I can learn, in the absence of any agreement to the contrary with the owner of cargo, has uniformly been paid by the shipowner, who, for his own convenience, preferred to discharge it there, instead of overside.

Overside delivery into barges involved the sorting of the cargo on the deck of the vessel, and so long as trade was carried in sailing vessels and even after the introduction of steamships, so long as they were of moderate size and carried cargo to a comparatively

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small number of consignees, the delay in delivery thereby involved was not of serious moment.

But with the introduction of the enormous steam carriers of merchandise now in use, the old mode of discharge overside became extremely difficult; to sort on deck for a large number of consignees a great variety of merchandise involved great delay in the delivery of cargo, and all unnecessary time spent in the dock was extremely costly to the shipowner, owing to the enormous amounts invested in the steamships, which necessitated each one making as many voyages as possible in the course of a year or other given period. To prevent unnecessary detention in the port or in dock, the shipowners appear to have made arrangements with the dock companies (who up to 1890 claimed and exercised the right to discharge all vessels that came into their docks, when this was not done by the crews) to take charge of the whole cargo on the quay, and there to sort it and to deliver it from the quay to lighters, if for water carriage.

The owners of these great steamers found it cheaper to pay themselves the cost of the use of the quay and the labor thus done by the dock owners in the delivery of the cargo to barges than to incur the loss consequent upon long detention of their valuable steamers while discharging overside. Of course, there is a mutual convenience and advantage as between ship and cargo in the quick discharge of the latter; but it is claimed by the merchants that from causes over which they have no control, in the arrangements in the docks, there is no considerable benefit accruing to them in the way of quick delivery—that the goods come out of the ship fast enough, but do not reach their hands any earlier than they would if discharged overside.

There is a clause in the merchants' shipping act that "if any goods are, for the purpose of convenience in assorting the same, landed at the wharf where the ship is discharged," the same being ready to take delivery and carry them elsewhere, "the goods shall be assorted at landing, and shall, if demanded, be delivered to the owner thereof within twenty-four hours after assortment; and the expense of and consequent on that landing and assortment shall be borne by the shipowner."

In view of the enactments already cited, securing the right of free discharge overside into barges and of the custom of the port already referred to, there seemed to be no possible way, except by the express consent of the owners of cargo, to throw upon the cargo the whole or any part of the extra cost resulting from landing on the quay and of the work done in assorting the goods there and delivering them to the barges sent by the owners of the goods.

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We accordingly find that until the introduction of the London clause into the bills of lading of the North Atlantic lines running to London, in April, 1888, and since then in all other trade, all such expenses in that port have been paid by the shipowner. It comes out of the freight, as all expense of discharge and delivery has always done.

For a considerable period prior to the introduction into the bills of lading of the London clause, the steamship companies discharging cargo on the dock quays (including the North Atlantic lines) had been paying the dock companies for flour at the rate of 10d. (20 cents) per ton, which they bore themselves without any attempt, so far as I have been able to learn, to put the whole or any part of it upon the owners of cargo.

Probably, this extra expense incident to landing on the dock and delivery from thence, instead of an overside delivery, was not at first considerable; but when it reached this point of 10d. per ton the North Atlantic lines concluded that it took too much out of the current freight, and that they could not afford to do the business any longer unless the owners of cargo should consent to the shifting of this expense upon themselves. Accordingly, they combined to insert the so-called London clause into all their bills of lading to London.

This clause, entitled "London clause," provided, as first framed, that "the shipowners shall be entitled to land these goods on the quays of the dock where the steamer discharges immediately on her arrival, and upon the goods being so landed the shipowners' responsibility shall cease."

"*N. B.*—Delivery into lighters. Consignees desirous of conveying their goods elsewhere shall, on making application to the dock company within seventy-two hours after the steamer's report" (this was instead of twenty-four hours, as previously), "be entitled to delivery into lighters at the following low rates: * * * Flour, 1s. 2d. (28.3 cents)."

From time to time this clause has been amplified, but the only essential changes for our present purpose are that, beginning with 1s. 2d. in 1888, the dock charge has been successively increased on flour to 1s. 6d. (36.3 cents) and to 1s. 9d. (42.3 cents), the present rate.

Since its adoption the bill of lading, including the London clause, has been the contract of the parties.

In 1891, after the rate of this dock charge on flour had been advanced to 1s. 6d. per ton, Borrowman, Phillips & Co., London merchants, consignees of flour under one of these bills of lading, wishing to contest it, brought suit against the Wilson Line in the High Court of Justice, Queen's Bench Division, to recover the 1s. 6d.

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paid under protest, after an offer to take the goods overside by lighter. The case was tried before two eminent judges, Mr. Justice Day and Mr. Justice Lawrence, and judgment was given against the plaintiff. In the opinion of the court, delivered by Mr. Justice Day, it was held that although there was no doubt that by the custom of the port of London the owner of goods is entitled, if he makes application within twenty-four hours, to have his goods delivered into lighters, yet this right was subject to special agreement, and here the parties had otherwise agreed.

In answer to the claim of the same right by statute, he said: "If you can contract yourself out of the common law—*i. e.*, customary right—so also you can contract yourself out of the statute law;" and he held that the plaintiffs had done so, and that it was perfectly clear that the plaintiffs could not recover.

The cause was heard on a special case, in which it was stated by agreement of counsel that the London clause was introduced in April, 1888, in pursuance of an arrangement made at a meeting of shipowners and merchants held in the city of London in December, 1887; that it is well known to shippers and consignees, and its object is to secure dispatch in discharging; that the plaintiffs had, prior to the voyage in question, had shipments of goods under bills of lading containing the same clause, but were not parties to the arrangement of 1887, or aware of, or represented at, that meeting, have always protested against the insertion of the clause in their bills of lading, and have always paid under protest the dock charge thereby required.

The learned judge who gave the opinion of the court goes somewhat beyond the agreed statement when he says "the 'London clause' has been entered into, it is stated, by shipowners and merchants in London for the purpose of expediting business. It contains most reasonable provisions which are almost necessary for the conduct of commercial business in these times, and when one finds immense vessels coming into the port of London, it is ridiculous to have applicable to such vessels and to such cargoes the old custom of the port of London, which was no doubt very applicable to small vessels containing very limited cargoes indeed. * * * If the shipowner had entered into this contract for the purpose merely of pecuniary benefit, he would have been entitled to the benefit of the contract. It is quite clear, however, that it is not merely for pecuniary benefit, but that it is to the interest of all parties concerned that their goods should be delivered in the most convenient manner, and so as to enable them always to get their goods within the shortest possible time," and he describes the dock charges as "moderate terms."

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The shipowners rely very strongly on this judgment and on the opinion as establishing their side of the case; but it will be noticed that the only point decided was that the plaintiffs were bound by their contract, and that they had contracted themselves out of the right they claimed, and that beyond that the opinion is largely obiter. There was no evidence whatever, so far as I can see, of the moderateness or reasonableness of the charge, which is the most important point.

Although it is stated by the special case and by the judge that the introduction of the London clause was in pursuance of an arrangement made at a meeting of shipowners and merchants held in London in December, 1887, this is stoutly denied by the merchants here, who insist that the only meeting ever held on the subject was a meeting of shipowners and consignees, not of cargoes but of ships, who were, of course, only the agents of the shipowners.

I do not consider this latter question of great importance, as I think it is not claimed that American shippers, like the Minnesota mill owners, had anything to do with it. They make their bills of lading subject to all the conditions expressed in local bills of lading used by the steamship companies carrying the property at the time of shipment, and they have to take what is given them or let their goods go unshipped.

In the year 1890, after a very serious strike among the dock laborers, the dock companies declined to have anything more to do with cargoes discharged upon the docks for transfer to barges or to perform any labor thereon, which they had theretofore done under a claim of right, and since that time such labor has all been done by the steamship companies.

Since 1891, the present system has been uniform. The steamship companies handle the goods from the time they leave the steamer's hold until they are delivered to the consignees' barges at the quay. In order to enable them to do this with convenience and dispatch, they hire by the year from the dock companies for an agreed rental—which is all that the dock companies receive, directly or indirectly, from the business—a certain extent of quay space, which may, for the purpose of the business of the discharge and delivery of the goods, be regarded as an enlargement of the deck of the steamer.

The 1s. 9d. charge which is the subject of the present contention is made, not for discharging the goods from the ship onto the quay, which is still borne by the steamship companies and is a heavy cost, but for the accommodation, shelter, and care of the goods upon the quay, and for all the labor done upon them from the moment they touch the quay until they are delivered to the barges, including sorting, piling, and removing.

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It is asserted by the merchants that the aggregate amount of the 1s. 9d. exacted for all this leaves to the shipowners a considerable profit after paying the rental of the dock space or sheds and paying for all this labor. But, on the contrary, it is claimed by the shipowners—and they say they are ready to prove it by their books—that the 1s. 9d. does not nearly pay them for the actual cost of the rental of the quay and doing the labor.

I have not been able to ascertain what the amount of the rental so paid is, except that I understand in a general way it is from a quarter to a third of the total cost, to cover which the 1s. 9d. is charged, but it includes the privilege—very valuable to the steamship company—of a preferential berth ready for each steamer on arrival.

It was testified before the royal commission on the port of London during the present year by Mr. Charles J. C. Scott, the chairman of the London and India Docks Company—the company which actually performed this work for the shipowners during the first two years of the London clause—that a considerable amount of profit accrued to the shipowners out of the 1s. 9d.; but, on the other hand, we have the positive statement that there is no profit, but an actual loss, with an offer to verify this.

But behind this question, whether the present charge of 1s. 9d. fairly represents the actual cost to the shipowner of this substituted mode of discharge and delivery, over the cost of the old mode of overside delivery, lies the more important and vital question, whether in the changed conditions of commerce this charge should be borne by the ship or by the cargo, or should be apportioned between them according to the proportions of benefit received by them, respectively, from the new method of delivery.

No reasonable man, I think, would claim that there should be a return to the antiquated mode of delivery overside. That would hardly be practicable. What the merchants claim is that the freight should pay the cost of discharge and delivery of the cargo, as it has done from time immemorial in the absence of special agreement; that if the freight is not sufficient to cover this, the freight should be enlarged, instead of imposing an extra landing charge, so that when the mill owner in Minnesota or the consignee in England sells the flour at a price based upon cost, insurance, and freight, both parties may understand exactly what they are doing. Under the present method of charge, this 1s. 9d. landing charge is not regarded as between buyers and sellers as part of the freight.

As to discrimination, whatever discrimination there is, arising from the system of charge complained of, it is not against the United States alone, but against the United States and Canada, the Canadian steamship lines having adopted the London clause.

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There is undoubtedly a discrimination as against flour from the United States and Canada in favor of flour coming to London from all other parts of the world. Flour is brought to London from many other parts of the world and is landed and delivered from large steamers in much the same way, and whatever cost attaches to this mode of delivery is paid by the shipowners out of the freight, no such clause as the London clause having been adopted.

But the amount of flour brought from all other parts combined is exceedingly small, as compared with the vast shipments from the United States and Canada, and I have no means of ascertaining whether this cost of landing and delivery via the quay to the lighter is or is not compensated for in the freights charged by the steamers not belonging to the North Atlantic lines.

As to discrimination as the effect of this charge, between shipments to London and those to other ports of Great Britain, there is a still greater difficulty in arriving at any just conclusion, as this would involve a full and exhaustive study of the whole subject of freights, which I have no means at my command to make. It is certain that the North Atlantic lines running to London have not introduced a clause similar to the London clause in their bills of lading to any other ports in Great Britain; they make no charge for delivery of cargo in addition to freight, but they claim that London is a far more expensive port for the discharge and delivery of goods than any other, owing to the cost of labor, dock charges, necessity of dispatch, and other causes, and that in other ports delivery on the quay is a good delivery to the consignee.

Strong support for the London clause is sought by the shipowners from the fact that at Liverpool—by the ancient custom of the port, as they claim delivery onto the quay is a good delivery discharging the ship—the consignee of the cargo has to pay for the subsequent moving into barges a charge on his goods, which is regulated by municipal ordinance, known as "master porterage," and is claimed to be approximate in amount to the London-clause charge for the similar service.

It is even claimed that the London clause was initiated in order to assimilate the course of procedure in London to what was found to work well in Liverpool and other ports. In a certain sense, this may be so; but one must have an intimate knowledge of comparative freights, which is quite beyond my reach, to determine as to the sufficiency of the freights to the two places, from time to time ruling, to compensate the shipowner for what he has to do in handling the goods on arrival. The claim last alluded to is, perhaps, only another mode of stating the fact that when the charge of the dock companies for the new mode of delivery had reached

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10d. per ton, the steamship owners concluded that the payment of this by them made too great an inroad on their freight, and that to avoid raising the freight, which might appear to result in an awkward discrimination between freights to London and those to Liverpool, they should transfer to the owner of the goods this extra charge, and not include it in the freight.

The notice issued by the combined steamship companies on the 26th of November, 1900, by which, from the 1st of January, 1901, the rate of dock charges on flour was raised from 1s. 6d. to 1s. 9d., well illustrates the method of which the shippers and importers complain. The entire body of North Atlantic lines running to London, without consulting the shippers and consignees from whom the extra charge is exacted or giving them a chance to be heard, issue a joint notice raising the rates. This increase is unrestrained by any possibility of competition, and is imposed by the mere will of one of the parties to the contract, upon the plea that the increase only represents a portion of the extra outgoings, and will, they think, under the circumstances, be considered reasonable; but if unreasonable, the shippers and consignees have no means of resisting it.

There is no doubt that the London clause gives the consignees the extended time of seventy-two hours in which to tender their barges for receipt of cargo, instead of twenty-four hours allowed under the usual custom of the port. Under the old system, failure to present their barges within the twenty-four hours gave the shipowners the right to land and deliver cargo to the dock authorities, whereby heavy charges far exceeding the 1s. 9d. were incurred, which difference is in such cases saved to the owners of cargo who present their barges within the seventy-two hours.

The shipowners insist that the advantages of the alteration of system are mutual; that they are able to charge and work at lower freight rates from their ability to turn their steamers round in the same time as that required at other ports (although it is to be noted that they do not point to any specific reduction of freight rates as occasioned by this change); and that the benefit to the cargo owner is that the greater dispatch in delivery saves him extra dock charges, depreciation, loss of interest, and demurrage of barges while waiting—very serious items, sometimes, under the old system.

But the shippers and consignees insist that this theoretical advantage is not in fact realized, but that, owing to causes for which neither they nor the shipowners are responsible, the delays have not been largely diminished. It is a fact that since the introduction of the clause there has been a great and rapid increase in the trade of the port of London in articles produced on the other side of the Atlantic, which is pointed to as a proof of the benefit gained by

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produce importers from the change; but it is obvious that many other causes may have produced this increase without any such benefit accruing to the importers from that particular cause.

Whether the charge of 1s. 9d. now made on flour for the cost of handling it until actual delivery to the consignee's barge is a proper one does not, in my judgment, depend upon the actual cost of the labor so incurred being more or less than the charge so made. It depends upon an ulterior inquiry of much broader scope than any which I have power to make, viz, whether taking the freight and charges in the bill of lading together, the North Atlantic lines running to London, by their combined action by means of this London clause—which shippers and consignees can neither resist nor control—are exacting from them more than a reasonable profit for the carriage and delivery of their goods.

The American shippers are clearly entitled to an investigation of this question by the competent authority of Congress. If upon a full examination of all the facts this question should be answered in the affirmative, the wisdom of Congress should be able to provide a remedy. The mere ascertainment and exposure, under the authority of Congress, of such an unjust exaction, if it exists, would probably go far toward a cure of the evil.

If this ulterior question should be decided in the negative, and it should be found that these great steamship lines are not using their united power to exact more from the shippers and consignees for the carriage and delivery of their goods than is fair and just, the only question that would remain for Congress to determine is one of method, whether the convenience of commerce requires that by an amendment to the Harter law, or other suitable enactment, all shipowners should be forbidden to insert in the bill of lading any charge in addition to freight for the discharge and delivery of the goods. Of course, such an enactment would in all probability be immediately followed by an increase of the freight to London by the 1s. 9d. now charged for this item, or a greater amount. There are obvious advantages in the old rule that the freight named in the bill of lading should cover all charges for the carriage and delivery of the goods. The shippers and consignees have added to their protests against the extra charge the request, from time to time made to the shipowners, to include it in the freight, but this the steamship companies have steadily refused. They appeal to the long continuance of the present system of charging since 1888, and to their belief that such an amendment of the Harter Act would be a serious blow to the trade with London, affecting not only the shipowners, but also the American shippers and London receivers.

It might well be that in the event of its being found that the

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shipowners, by their combined action, are exacting from shippers and consignees by means of the London clause more than a fair and reasonable profit for the carriage and delivery of their goods, such an amendment of the Harter Act would have a wholesome effect in restraining the combined companies from imposing an extravagant freight, made up of the total freight and charges, and thereby themselves inviting a competition which now seems impossible.

I have made this report chiefly on flour as affected by the London clause, because the correspondence which accompanies the Department instruction related solely to it. But there are other articles and other branches of trade similarly affected by it.

I have been greatly indebted to John Kingsford, esq., and Thomas Horne, esq., president and secretary, respectively, of the London Flour Trade Association, representing the consignees of cargo in London, and also to H. B. Roper, esq., of the Wilsons and Furness-Leyland Line, Limited, who have, at my request, furnished me with statements of the views of the respective parties to this controversy.

COMPETITION FOR MILITARY TRACTOR IN GREAT BRITAIN.

The Department has received from the British embassy, Washington, under date of November 25, 1901, copy of a notice of a competition for military tractors, to be held in the spring of 1903. An invitation is extended to manufacturers of such vehicles in the United States to take part in the competition, and the embassy requests that a notification thereof be published in the CONSULAR REPORTS, as was done in the case of the competition for self-propelled lorries,* in order that it may become widely known among manufacturers at an early date. The regulations are:

TRACTOR FOR MILITARY PURPOSES.

(1) It being essential that tractors for military purposes should be capable of a much greater radius of action, without replenishment of fuel or water, than is at present attained by any such engines constructed for either military or commercial purposes, the Secretary of State for War offers prizes, as under, for the best tractors meeting the requirements mentioned hereafter:

First prize	£1,000=$4,866.50
Second prize	750= 3,649.87
Third prize	500= 2,433.25

To each prize will be added a bonus of £10 ($48.66) for every complete mile beyond the minimum of 40 miles required by paragraph 2 of the "requirements" that the tractors awarded such prize can travel under the conditions therein

* See ADVANCE SHEETS No. 1067 (June 20, 1901); CONSULAR REPORTS No. 251.

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described. The total amount of this bonus shall not exceed the value of the particular prize to which it may be added.

(2) The trials, which will be conducted by the War Office committee on mechanical transport, will commence in the spring of 1903, and will extend over a considerable period, so that the tractors may be thoroughly tested. The exact nature of the trials will be determined upon by the above committee. A general scheme will be drawn up and issued to all competitors, but the committee reserve to themselves full powers to carry out any additional tests that they may deem necessary, whether included in the general programme or not. The committee reserve to themselves the power of rejecting any tractor which does not comply with the requirements published herewith, or of suspending, at any stage, the trials of any tractor which in their opinion has proved itself unsuitable.

(3) The decision of the committee on all matters connected with the competition shall be final.

(4) Forms of entry will be supplied on application to the secretary, mechanical transport committee, War Office, Horse Guards, Whitehall. Firms or individuals who intend to enter must send in these forms, duly completed, to the secretary, not later than January 1, 1903.

(5) No tractor will be admitted to the trials unless a fully dimensioned set of drawings and a specification, giving complete details, exactly as submitted for trial, together with a statement of the purchase price, have been lodged with the secretary of the mechanical transport committee before the commencement of the trials.

(6) A firm or individual may enter more than one tractor, but the conditions of paragraphs 4 and 5 must be complied with for each separate machine entered.

(7) His Majesty's Government to have the right of purchasing all or any of the competing tractors at the price stated by the competitor under paragraph 5.

(8) All designs and specifications lodged under paragraph 5 will be considered confidential; and those of the tractors that may be purchased will be retained for the purposes of the Government, but without prejudice to patent rights. Those of the tractors not purchased will be returned to the competitors after the trial.

STATEMENT OF REQUIREMENTS OF TRACTOR FOR MILITARY PURPOSES.

(1) Not to exceed a gross weight of 13 tons when fully loaded with all its fuel and water and with all stores necessary for its proper manipulation on the march, and must be independent of any extraneous machinery for the supply of its motive power.

(2) To be capable of hauling a gross load of 25 tons for not less than 40 miles over ordinary roads, having, so far as may be possible, grades not exceeding approximately 1 in 18, at an average speed of 3 miles an hour without at any time exceeding a speed of 5 miles an hour, using only the fuel and water that can be carried on the tractor itself, without being replenished during the journey from either a separate vehicle or from any other source, and, in the case of a steam engine, without reducing the amount of water in the boiler below a safety level to be fixed upon by the committee.

(3) To be capable of hauling a gross load of 12½ tons along a good, level road for a distance of not less than 1 mile at a speed of 8 miles an hour.

(4) To be capable of hauling a gross load of 12½ tons up a slope of 1 in 6 (for this test the tractor can be fully loaded with fuel and water).

(5) To be so designed and constructed that it shall be capable of traveling on all classes of roads and over rough ground without excessive wear and tear or injury, either from shock or from any of its lower portions striking obstacles projecting from the surface of the ground or from the wheels sinking into the ground

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in soft places, or from other causes, and to be capable of being driven through water 2 feet deep without its motive power being seriously affected.

(6) To be capable of being driven either ahead or astern.

(7) To be fitted with efficient brakes on all driving wheels.

(8) To be efficiently spring mounted on all axles.

(9) Provision must be made for rapidly locking together each or every pair of driving wheels.

(10) To be capable of being steered by one man, and entirely controlled and manipulated by not more than two men, who must be placed in convenient positions for the work they are required to do.

(11) To be provided with adequate covering to protect the men from the weather.

(12) The handles, levers, or other arrangements for controlling the mechanism to be so arranged that the tractor may be driven either ahead or astern, changed from one speed and from one direction of movement to another, steered, have brakes applied, and have any oiling or adjustments, necessary while traveling, carried out without the driver or assistant (if employed) leaving his normal position.

(13) Proper arrangements to be made that no part of the machinery be liable to damage from mud or dust. When casings are used, these should be dust proof and readily removable for inspection and repair.

(14) To be fitted with a winding gear, carrying 75 yards of flexible galvanized steel-wire rope, 2¼ inches in circumference, the breaking strain of which must not be less than 15 tons, with suitable leading sheaves arranged so that a fair lead may be obtained for the rope from the drum to either the forward or after end of the tractor, and from thence in any direction within an angle of 90° on either side of the fore and aft center line of the tractor; the winding gear to be arranged so that the wire rope can be paid out from the drum while the engine is moving ahead.

(15) The driving wheels to be not less than 6 feet 6 inches in diameter, nor less than 18 inches wide across the tires.

(16) To prevent the tractor being stopped by its weight being taken on under surfaces, should the wheels sink into the ground, the clearance between such under surfaces and the ground must not be less than 18 inches.

(17) Not to exceed the following outside over-all measurements: Height from the ground level, for the fixed parts of the engine, 9 feet; and for removable parts, such as chimney, roof, etc., 12 feet; width, 7 feet 4 inches; length, 20 feet.

(18) No restrictions are placed on nature of fuel or class of engine—whether steam, internal combustion, or otherwise—except that oils having a flash point of less than 75° F. (Abel's close test) must not be employed.

(19) As the tractor is intended primarily for hauling purposes, it is not essential that a fly wheel should be provided from which machinery can be driven by a belt; but if a fly wheel is fitted, it must be made of steel.

(20) No armoring need be arranged for.

(21) In the case of steam engines—

(*a*) The boiler may be of any form or material, but the construction must be such that it will comply with the requirements of the Manchester Steam Users' Association. Boilers normally working at exceptionally high pressures are not desirable.

(*b*) The boiler must be so designed that it can be easily washed out.

(*c*) An efficient arrangement must be fitted for preventing the emission of sparks from the chimney.

(*d*) The boiler feed apparatus must be in duplicate.

(*e*) A reliable water lifter for filling the engine tanks must be fitted.

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(*f*) If coal fired, means must be provided to deal with fuel that clinkers freely, and the grate area must be sufficient to enable coal of a very inferior quality to be used.

(*g*) If condensing apparatus is employed, it must be substantially constructed, and not liable to damage from vibration or to be clogged up by dust.

(*h*) If a condenser is used, means must be provided for properly filtering the lubricating oil, if any, used in the engine from the condensed water before returning it to the boiler.

(22) If internal-combustion engines are used, it is desirable that means should be provided for starting the engine, putting it into gear, and starting the load without noise or shock.

(23) If friction clutches are used, the material forming the working surfaces of the clutch must be such that it will not require frequent renewing, and provision must be made that the clutch can be easily adjusted on the road.

(24) If liquid fuel is used, means must be provided for rapidly filling the tanks on the tractor.

NOTE.—In considering the merits of competing vehicles, special importance will be paid to the following points:

(*a*) Distance over which a gross load of 25 tons can be hauled at 3 miles an hour with the fuel and water that can be carried on the tractor without replenishment.

(*b*) Prime cost, having due regard to efficiency.

(*c*) Economy in working and maintenance.

(*d*) Ease of steering and manipulation.

(*e*) Simplicity of design, accessibility of parts, and the readiness with which repairs can be effected or worn parts replaced on the road.

(*f*) Absence of noise, vibration, smoke, or visible vapor.

(*g*) The means by which the working parts are prevented from being damaged by mud and dust.

(*h*) Capability of working with fuels varying in description and quality.

TANGENTIAL TRACTION.

The following translation of an article from the Madrid Mining Review on a so-called new and ingenious system of electric traction has been transmitted by Consul Ridgely, of Malaga, under date of November 7, 1901:

We have received a pamphlet issued by the Société Anonyme Electricité and Hydraulique, of Charleroi, treating of the new and highly ingenious system of electric traction devised by Messrs. Dulait, Rosenfeld & Zelenay.

It is a clear and precise résumé, and we subjoin a translation thereof, confident of its being read with the interest it deserves.

Tangential traction is based upon the application of polyphasic alternating currents. The most characteristic feature of this system lies in the complete absence of a rotating motor in the carriage, and in the absence of obstacles to currents between the vehicle and the source of electric energy.

The motion of the carriage is obtained under the influence of the magnetic "traveling" field, whose action is as follows: It is known that in polyphasic motors in general, there exists no electric connection between the rotating part, called the

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"rotor," and the stable part, called the "stator." In consequence of the combination of polyphasic currents thrown into the stator, a magnetic current is produced in the magnetic field, which is rotary. This field, owing to the reactions produced in the rotor, impels the latter, imparting to it a rotary movement. If we develop upon a plane the inductor of such a motor, and suspend above the apparatus inducted by it and similarly developed, the rotary movement is transformed into rectilinear motion. We may point out that the developed inducted apparatus need not of necessity cover the whole length of the inductor.

Having said this much, let us consider a vehicle placed on two rails; let us fix between the rails the developed inductor called stator, and let us suspend beneath the vehicle the developed inducted apparatus called "propeller." This vehicle will be put in motion when a polyphasic current is produced in the stable part of the system—that is, in the stator. In these conditions, the magnetic field is no longer gyratory, but continuous.

Having once expounded the principle of this new system of traction, we proceed to meet the objections that immediately present themselves to the mind.

In order to attain economy, both as to production and construction, in polyphasic motors, the object aimed at is to reduce as much as possible the free space between the rotor and the stator. Sometimes this space does not exceed a fraction of a millimeter. It is needless to say that in the industrial applications of tangential traction, so small a distance between the stator and the propeller will constitute a great drawback, and may perhaps also render the regular action of the system practically impossible. For this reason we have devised a new arrangement, which shall allow of an enlargement of the intervening space just referred to and at the same time of a considerable reduction in the copper to be employed. The very painstaking investigations to which we applied ourselves for this purpose have given us entire satisfaction and demonstrated the feasibility of the plan as applied to practice.

A second important consideration is as follows: In our explanation of the groundwork of the system, we have supposed the stator to be stable between both rails throughout the length of the line and the triphasic current to circulate throughout the length of the stator. It is evident that such an arrangement would not, from a practical and economical standpoint, be realizable on an extensive line on which rather broad trains should circulate. In order to overcome this difficulty, we have essayed to break up the stator into sections and to feed these latter by means of "feeders." This subdivision into sections would be unnecessary if the propeller covered the stator completely, because in such case the system would be nothing but an immense motor developed upon the surface of the ground. Calculations show that, as applied to railroads, sections of 500 meters (1,640 feet) would give a very satisfactory result; the length of the sections depends simply upon the intensity of traffic. Each section's entrance into the circuit, as also its elimination therefrom, would be effected electrically and automatically by the train itself, or by means of a special arrangement which we have tried practically.

The trials we have made have led us to employ the discontinuous stator, which renders the application of the system economical. We are already in a position to forecast that, as a rule, it will be sufficient to furnish the line with stators at about every fifth of its length.

Finally, we would remark that the construction of the stators can be so managed that the consumption of energy shall be almost constant at all points of the line, whether on slopes or on level ground. Indeed, it is a known fact that by varying the length of the poles of a triphasic motor, the velocity of the latter is acted upon.

It would be difficult to estimate thus early the importance of possible applications of tangential traction. We will, for the present, confine ourselves to stating

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the fact that one of its great advantages consists in the direct use of high-tension currents, without any contact of these with the exterior, whereby, on the one hand, causes of danger and, on the other, the difficulties resulting from the system of lateral intaking of current are eliminated.

The mode of traction is advantageous in all respects, seeing that it is independent of the adherence of the train; in it we witness a power which continually impels the vehicle on a parallel with the line, and in accordance with its axis. Besides, there is a suppression of all mechanical transformation of motion, thus allowing of a considerable increase in the present velocities of trains. Security in the running of trains will be complete, inasmuch as perturbing movements, such as full speed, starting, etc., will no longer exist, while there will be but one continuous motion of the carriage toward the stator.

Tangential traction will likewise reduce to a minimum the expense of maintenance, both of movables and fixtures, owing to the absence of organs of mechanical transmission and of perturbing movements.

With a view to impart fixity to ideas as to the economical advantages of tangential traction, we have elaborated two projects for the service of trains on one and the same line, 50 kilometers (31 miles) long, from Brussels to Antwerp—the first for realization by means of electric traction with lateral intaking of current, and the second by means of tangential traction. Assuming the expense of installation in both projects to be equal, the industrial production of the line under the system of lateral intaking of current is about 37 per cent, whereas 60 per cent is attained under the system of tangential traction. This calculation proves that, by increasing the length of the line and the weight and velocity of the trains, the advantage in favor of tangential traction is still more considerable.

THE USES OF ELECTRICITY AT BERLIN.

Notwithstanding the stagnation and depression which now overshadow industrial development in Germany, the application of electricity to the various purposes of power and illumination in Berlin has gone on apparently unchecked. The horse cars, of which there were many hundreds in service in the capital and its outlying suburbs a year ago, have all but disappeared from the streets, except where they are used as trailers behind the electric cars to accommodate the rush of travel during the morning and early evening hours. Everywhere in streets and public places and in hundreds of new buildings, electric lights are supplanting gas and other means of illumination.

From a report of the Berlin Electrical Works, just published, it appears that there are supplied from its generators 353,253 arc and 14,274 incandescent lamps, besides 6,426 electric motors of 21,448 aggregate horsepower, and that of this vast array 49,949 arc lights, 1,878 incandescent lamps, and 1,462 motors were newly installed within the circuit of that one company during the year which ended on the 1st of October. This increase of 21 per cent in the consumption of current of course does not take into account the numerous

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large new buildings, factories, and other establishments which have independent lighting and power plants under private ownership and control.

Especially has the development of electrical tramway lines been on a phenomenal scale. One year ago, the aggregate electrical energy consumed for this purpose was 8,000 horsepower; it is now 16,800 horsepower, having more than doubled in a single twelvemonth. When the principal city lines were changed from horse to electric equipment, the municipality held out firmly against the use of overhead conductors in the central districts. The trolley was tabooed on all except suburban routes, so that cars intended for use on lines running from the central portions of Berlin to outlying districts were equipped for both methods of transmission—trolleys for suburban sections and heavy storage batteries to carry them over the down-town portion of their route. This made the cars heavy and costly, but they worked fairly well until a 6-inch snow fall exhausted the already overtaxed current supply, and filled the busy down-town streets with "dead" cars that had to be hauled out by horse power. From that time the overhead wires crept farther and farther into the city, until they now substantially supply most of the lines throughout their entire length. This vastly improved service—especially the greatly accelerated speed on the suburban lines—has practically revolutionized the conditions of public transportation in Berlin, and has drawn a constantly increasing percentage of population to Halensee, Charlottenburg, Friedenau, Wilmersdorf, and a dozen more populous and handsomely built towns which have sprung up in recent years within a radius of 7 or 8 miles from the cathedral of Berlin.

Of the entire consumption of current, 21 per cent is used for lighting, 22 per cent for miscellaneous power purposes, while the remaining 57 per cent are charged to the tramway lines. The average price to consumers in Berlin is 18.9 pfennigs (4.5 cents) per kilowatt hour, and the total current supplied by the company increased from 62,349,846 kilowatt hours in 1900 to 89,668,258 in the fiscal year 1901.

THE HIGH-SPEED EXPERIMENTS.

It is from one of the power stations of the Berlin Electrical Company that the current supply is transmitted at high voltage from Oberschönweide, on the River Spree above Berlin, across to Marienfelde for the high-speed electrical railway experiments, a preparatory account of which has been given in preceding reports of this series (ADVANCE SHEETS Nos. 1103 and 1154).* After many months

*CONSULAR REPORTS Nos. 253 and 254.

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of careful preparation, the actual tests began at the end of September on the stretch of standard-gauge track between Marienfelde and Zossen. They have been from the first carefully guarded from public observation, and no technical account of the difficulties encountered and results attained will be accessible until the full official report of the engineers in charge of the experiments shall be published.

From entirely trustworthy sources, however, information has been obtained, from time to time, on the basis of which it can be stated that during the first few days the speed attained did not exceed 90 kilometers (55.9 miles) per hour. This was gradually increased until the record of yesterday shows a pace of 150 kilometers (93.2 miles) per hour, which, according to the best information that can be obtained, is considered the practicable limit of advisable speed with the equipment thus far devised. Above that velocity the increasing danger of derailment and the tremendous strain upon track and rolling stock would, it is believed, outweigh the advantages of higher speed with the machinery now available. It is therefore understood that the experiments are suspended, at least until some radical changes, suggested by this experience, may be made in the construction of motors and other details of the apparatus.

The official report, when it shall appear, will be replete with new and interesting data for electrical scientists. The motors, although in at least one instance "burnt out" by the powerful current, have apparently done all that was expected of them, and the expected difficulty of "getting the current into the car" from a triple overhead wire seems to have been successfully overcome. The other anticipated obstacle—air resistance—proved less serious than was expected. The maximum pressure registered by the instruments placed in front of the cars was 134 kilograms per square meter—approximately, 16.7 pounds per square foot.

The present results of the experiments, although falling far short of the extreme rates of speed which were somewhat glibly talked about as likely to be attained, demonstrate anew the difficulties and consequent greatly increased expenses which inevitably attach to extreme velocities, but they will form a new and valuable groundwork of demonstrated facts upon which further experiments toward still higher rates of speed can safely be based.

FRANK H. MASON,
Consul-General.

BERLIN, *November 9, 1901.*

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AUTOMOBILE EXHIBITION IN COPENHAGEN.

An exhibition of automobiles will be held in this city from April 11 to April 27, 1902, under the auspices of the Danish Automobile Club and the Society for the Promotion of Industrial Arts. It will be held in the building of the last-mentioned society, and is designed mainly for automobiles, but some space will be given to motor cycles and articles relating to the driving of automobiles. The exhibition is intended to attract visitors from all the Scandinavian countries.

The conditions of the exhibition are as follows:

No rent whatever is to be paid by the exhibitor.

The showrooms, cases, and tables belonging to the society are put at the disposal of exhibitors without charge.

All articles exhibited are, during the time of the exhibition, insured by the committee against fire.

Expenses arising from the ordinary inspection of the exhibited articles are paid by the committee.

The committee will insure a duty-free import of all articles which are again exported at the close of the exhibition.

During the hours when the exhibition is open to the public, the articles exhibited must be kept in the places designated for them; at other times of the day, exhibitors are at liberty to drive their machines.

The exhibitors will have an opportunity of presenting a display in common at some suitable grounds before the close of the exhibition.

Notice of a desire to participate in the exhibition, containing information as complete as possible concerning the nature, size, weight, etc., of the machines, accompanied by illustration, if convenient, are to be sent by the 15th of January, and are to be directed to Industriforeningen, Copenhagen.

During February, replies will be sent stating the extent to which the notifications have been accepted and the latest day at which the articles to be exhibited must arrive at Copenhagen.

American manufacturers intending to exhibit will find a line of steamers from New York direct to Copenhagen.

JNO. C. FREEMAN,

COPENHAGEN, *November 25, 1901.* *Consul.*

NEW DANISH STEAMSHIP.

The United Steamship Company (Copenhagen to New York) will put on its line in a few months a new steamer of 16,000 tons displacement, named *Oscar the Second*, after the King of Sweden. She was launched yesterday from the yards of Alexander Stephen & Son, on the Clyde. Her length is 515 feet; breadth, 58 feet; and height to the upper deck, 42 feet. She will have a carrying capacity

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of 6,500 tons. This will make her the largest ship in commerce plying to the Baltic.

She is a double-screw steamship, with two triple-expansion engines, each with three cylinders and condensers, which together give 8,000 horsepower. She has three steel decks running the whole length of the ship, and the hold is divided into ten water-tight compartments.

She has ample accommodations for 81 first-class, 60 second-class, and 800 third-class passengers. The ship throughout will be supplied with modern appliances.

J. C. FREEMAN,
Consul.

COPENHAGEN, *November 15, 1901.*

BARBER SHOPS AND SHAVING SOAP IN THE NETHERLANDS.*

BARBER SHOPS.

The average Hollander is shaved from two to six times a week by a barber, either at the barber shop or shaving parlor or at his private residence.

The barber shops in the Netherlands, though tolerably well appointed, do not compare with those in America. Our reversible barber chairs are practically unknown, and the round-backed chair, with simple sliding head rest, is still in general use. About the proper application of bay rum and sea foam very little is known, though shampoos are getting to be the fashion. French perfumed hair waters and "Brillantine" are much used, and the fashionable barber will generally ask a customer, after the latter has washed the soap off his own face, if he wishes "Vinaigre" on his face before the powder, and his hair done up with "Eau Vegetal" and "Brillantine." Fastidious customers generally keep their own assortment of bottles of hair waters, besides their razors, brushes, combs, and soap, in their private drawer in the shop.

I understand that the barber shops have much improved of late years, and I believe that the Dutch barbers, as a class, are alive to the fact that their methods and the appointments of their parlors can still be improved. Of late, the barbers and hairdressers, and also the employees, have formed an association, by which certain rules regulating the tariff for shaving and hair cutting and the working hours and wages have been established. The present average tariff of a first-class barber and hairdresser is 15 Dutch cents (6 American cents) for shaving, 20 Dutch cents (8 American

* This report was prepared in answer to inquiry made by a Connecticut manufacturer, to whom ADVANCE SHEETS have been mailed.

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cents) for shaving and hair dressing, and from 25 to 30 Dutch cents (10 to 12 American cents) for hair cutting. Tickets good for ten shaves may be bought for 40 American cents, while one and one-half shaves on such a ticket are charged for shaving and hair dressing. Annual and monthly tickets can also be had. The prices of the annual tickets for shaving, hair dressing, and hair cutting range from 15 to 30 florins ($6 to $12), according to the number of times a customer is shaved during the week. As customers holding tickets are supposed to furnish their own shaving materials, besides the necessary bottles of hair waters, the cost of shaving and hair dressing in the fashionable parlor is not as cheap as the foregoing figures would indicate. As a matter of fact, the average fashionable barber makes more by the sale of materials and hair waters than he does by shaving and hair dressing.

WAGES OF BARBERS.

The wages of a barber's assistant range from 6 to 14 florins ($2.40 to $5.60) and those of an assistant understanding hair dressing from 14 to 16 florins ($5.60 to $6.40) a week, besides a percentage on sales and tips. The barbers belonging to the "Dutch Barbers' and Hairdressers' Association" keep their shops and parlors open from 8 a. m. to 9 p. m. On Sundays, some of the shops are open from 9 till 12 in the morning, while others are closed all day.

SHAVING SOAP.

The soaps used by the barbers and by the few that shave themselves are principally cream and powder of French manufacture. In the cheaper barber shops, where the workman gets his shave and where a lower tariff prevails (shaving 2 to 2½ American cents and hair cutting from 4 to 6 American cents), cakes of soap of Dutch manufacture are used.

The wholesale price of the French perfumed cream shaving soap is, for twelve porcelain boxes, each containing a little over an ounce of soap, from 6 to 12 florins ($2.40 to $4.80); and for a dozen boxes, each containing a little over half an ounce, from 4 to 6 florins ($1.60 to $2.40). The price of the powder is from $1.20 to $1.80 per dozen boxes. The shaving soap in cakes of Dutch manufacture sells from 9 to 12 American cents per pound.

The retail prices for the porcelain boxes of perfumed shaving cream are: Full boxes, 30 to 60 American cents; half boxes, 20 to 30 American cents. Shaving soap is sold at 4 American cents per cake. Persons shaving themselves buy their soap in stores or barber shops at retail prices.

The barbers generally buy their soaps either direct from the manufacturers in France or through their agents in Holland and Belgium. Traveling men and agents of the manufacturers regularly

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call at the principal barber shops to solicit orders and furnish advertising matter.

DUTIES ON SOAP.

The import duties on soaps entering the Netherlands are as follows, per 100 kilograms (220.46 pounds):

	Florins.
Perfumed and transparent soaps	4=$1.60
Other hard soaps	2= .80
Other soft soaps	1= .40
Creoline soap	2= .80
Dry soap, in packages	5 per cent ad valorem.

Soap powder, not perfumed, pays the same duty as "other hard soaps."

HOW TO INTRODUCE AMERICAN SOAPS.

The best means of advertising shaving soaps is to furnish the fashionable shaving parlors with attractive advertising signs to adorn the walls and show windows. These, when placed properly, always attract attention. Another good way is to advertise in the Barbiers en Kapperscourant (Barbers' and Hairdressers' Journal), the periodical of the Dutch Barbers' and Hairdressers' Association, of which I inclose a copy.*

Generally speaking, American articles are favorably looked upon here, and the excellent qualities of our manufactures are duly appreciated.

No statistics exist as to the quantity of shaving soap used or imported annually; the amount must, however, be considerable, considering that this country is thickly populated.

POPULATION OF NETHERLANDS CITIES.

On December 31, 1899, the population of the Netherlands was 5,103,924. The population of the principal cities is:

City.	Population.	City.	Population.
Amsterdam	523,557	Maastricht	34,640
Rotterdam	339,299	Leeuwarden	32,203
The Hague	205,328	Delft	31,507
Utrecht	102,040	Bois le Duc	31,253
Groningen	66,739	Zwoole	30,846
Haarlem	64,836	Schiedam	27,081
Arnhem	57,248	Breda	26,413
Leiden	53,640	Helder	26,308
Nymegen	42,857	Deventer	26,297
Tilburg	40,684	Apeldoorn	25,834
Dordrecht	38,459		

S. LISTOE,
Consul.

ROTTERDAM, *November 19, 1901.*

* Transmitted to the firm that requested this report.

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MILK FLOUR IN SWEDEN.

Dr. M Ekenberg, of Gothenburg, has made a discovery which will be of importance in dairy farming. He claims to have invented an apparatus by which milk can be brought into the form of powder, like flour in appearance, but possessing all the qualities of milk in concentrated form, moisture excepted. It is said that this milk flour is completely soluble in water, and can be used for all purposes for which common milk is employed. The milk flour does not get sour, does not ferment, and in the dry state is not sensitive to changes in the weather. It can be kept and transported in tin cans, barrels, bags, etc. The cost of production Dr. Ekenberg has estimated at about 27 cents per 106 quarts, and he thinks that flour made from skimmed milk can be sold for about 13 cents per pound. At a recent meeting of the Academy of Agriculture, Dr. Ekenberg exhibited samples of the milk flour, which received favorable comments. It is considered that the invention will be of the greatest importance for the utilization of skimmed milk, which heretofore has largely been wasted, but in the dry form can be transported all over the country without losing any of its original good qualities.

The product mentioned is considered superior to the casein products "proton" and "proteide" now manufactured from milk by the aid of rennet, acid, or lye.

ROBERT S. S. BERGH,
Consul.

GOTHENBURG, *November 20, 1901.*

APPROXIMATE PRODUCTION OF SUGAR FOR 1901.

Supplementing my report of October 18,* on the earliest approximate estimates of this year's beet-sugar crop, I add to-day some estimates that are based upon later data, and may therefore be considered as coming nearer the truth, though they are not yet to be considered as final:

Country.	1901–2.	1900–1901.	1899–1900.	1898–99.	1897–98.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Germany	2,070,000	1,979,098	1,798,631	1,721,718	1,852,857
Austria-Hungary	1,220,000	1,094,043	1,108,007	1,051,290	831,667
France	1,150,000	1,170,332	977,850	830,132	821,235
Russia	1,050,000	920,000	905,737	776,066	738,715
Belgium	350,000	340,000	302,865	244,117	265,397
Holland	190,000	178,081	171,029	149,763	125,658
Other countries	400,000	387,450	253,929	209,115	196,245

*ADVANCE SHEETS No. 1187 (November 12, 1901), quoting as authorities Mr. Licht, a well-known statistician, and the Centralblatt fuer Zucherindustrie.

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Accordingly, the year 1901–2 would show an increase of 361,000 tons of beet sugar over the previous year.

If I may add two more authorities on this subject—Gieseker, of Belgium, and the Centralblatt, of Magdeburg—I learn that their investigations now lead them to make the following approximate estimates:

Country.	Estimates.		Production of 1900.
	Gieseker.	Centralblatt.	
	Tons.	*Tons.*	*Tons.*
Germany	2,060,000	2,125,000	1,979,000
Austria	1,225,000	1,225,000	1,074,000
France	1,100,000	1,190,000	1,170,000
Russia	1,050,000	1,000,000	920,000
Belgium	320,000	350,000	340,000
Holland	190,000	200,000	178,000
Sweden	115,000		112,000
Denmark	60,000		53,000
Spain	100,000	450,000	84,000
Italy	77,000		66,000
Roumania	18,000		24,000
Other countries	3,000		48,000

I am also in a position to report the statistics now made known of the new crops of the leading cane-sugar-producing countries, from September 1, 1900, until August 31, 1901:

Country.	1901–2.	1900–1901.	1899–1900.	1898–99.
	Tons.	*Tons.*	*Tons.*	*Tons.*
Cuba	755,000	512,061	281,420	332,976
Porto Rico	80,000	55,089	32,751	55,295
Trinidad	50,000	47,942	38,003	48,757
Barbados	60,000	61,074	49,920	46,960
Martinique	35,000	33,543	30,175	30,411
Guadeloupe	40,000	37,946	28,091	39,254
Demerara	100,000	95,188	78,751	92,940
Brazil	190,000	180,000	165,000	152,000
Java	720,000	704,456	697,341	829,218
Philippines	50,000	55,559	66,116	118,443
Mauritius	170,000	174,938	159,102	180,062
Reunion	40,000	42,631	29,377	39,485
Jamaica	30,000	30,000	28,000	30,000
Lesser Antilles	95,000	85,000	80,000	80,000
United States	400,000	350,000	267,734	276,767
Peru	135,000	120,000	120,000	125,000
Egypt	90,000	85,000	95,000	90,822
Sandwich Islands	340,000	320,000	280,000	282,807

Accordingly, there was an increase in cane sugar of 409,573 tons during the past year over that of the preceding year.

HENRY W. DIEDERICH,

BREMEN, *October 24, 1901.* *Consul.*

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UTILIZING BEET RESIDUE AND SAWDUST.

The development of our infant beet-sugar industry (with its thirty factories that produced 371,000 tons of sugar last year, valued at nearly $8,000,000) raises the question as to the best means of utilizing the residue of the beets, which, in the European factories, is called "melasse." In the last decade, commencing with August, 1890, the world's production of cane sugar was 2,850,000 tons, against 5,950,000 tons of beet sugar. In the European factories, sugar to the extent of 12 to 13 per cent of the weight is extracted from the beets. Much of the melasse is converted into alcohol, while another method of using it is as an ingredient of animal food, especially in the so-called "Torfmelassefutter," or peat and melasse mixed. The residue of the beets is said to contain about 50 per cent of uncrystallized raw sugar. The European demand for this class of animal food exceeds 75,000 tons yearly, at an average price of $1.78 per cwt.

CATTLE FOOD.

At the patent office in Berlin, an application is pending which provides for the utilization of sawdust in combination with melasse as a food for animals. This may savor of the tale of the farmer who applied green goggles to his horse and fed him on sawdust, with the well-known result; yet the analytical table of nutritious matter contained in wood that is appended to the patent application is remarkable, when compared with that of straw. Chopped straw is used in Europe in considerable quantities to feed to animals in mixtures, and, according to the analysis, prepared sawdust would be more nourishing than straw. The inventor kindly put at my disposal the claims set forth in his patent application, of which I give a translation:

PROCEDURE FOR PRODUCING AN ANIMAL FOOD FROM SAWDUST AND MELASSE.

In the rational economics of the farmer, science and modern technic play a great part. The observation has frequently been made that animals have a decided liking for young shoots and roots of shrubs, as well as the stems of indian-corn and sunflower stalks, all of which are easily digested. Experiments of long standing have proven that the nutriment contained in the shoots remains the same after they become wood. When certain chemicals—salt and calcareous water—are added to sawdust or ground corn cobs and stalks that have undergone a certain fermenting process, the resultant product is a food for animals that is easily assimilated and digested, and is liked by cattle, horses, sheep, and pigs. The valuable properties of this prepared food are based upon the nutritious matter contained in the wood (which is set free by the fermenting process), mixed with a large percentage of

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melasse. The following table gives the percentage of nutritious matter contained in wood sawdust, as compared with straw:

Description.	Birch.	Poplar.	Alder.	Acacia.	Beech.	Pine.	Walnut.	Straw.
	Per ct.	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Albumen	7.06	8.46	7.67	7.65	6.2	8.23	1.41	3.8
Nitrogen	48.58	45.81	47.76	46.68	47.59	40.33	37.59	36.4
Fatty substance	4.58	3.97	3.16	2.8	2.57	5.19	1.68	1.3
Wood fiber	32.25	38.71	32.93	32.59	30.33	39.27	58.11	39.7

The nutritious matter in stems of indian-corn and sunflower stalks, if prepared, is proportionately larger. It is evident that a very cheap cattle food can be prepared in this manner, to which may be added potato peelings, husks and shells of grains, and from 70 to 80 per cent of melasse, which will be absorbed by the prepared sawdust. The aforementioned "Torfmelasse" contains but from 20 to 25 per cent of melasse. The nourishing qualities of melasse for animals have been known to agriculture, but on account of its slimy condition it could not be properly utilized.

The inventor, Mr. Heinrich Reh, Wilhelm Strasse 27[I], Berlin, Germany, is ready to give further information to interested parties.

FUEL.

Sawdust in cake form as fuel has been produced in Prussia. These are octagon-shaped bricks, 6½ inches long, 3½ inches wide, and three-fourths of an inch thick; weight, one-half pound each. In the district and surrounding towns where the factory was located, the schools were heated by this fuel, which burns in air-tight stoves without a large flame, and leaves but little ash. It is an ideal fuel, being clean, and no regulating of the stove being necessary. No binding ingredient is used; the sawdust is dried and pressed in the shape of the briquette. The absence of all tarry or oily substances prevents smoke. The weight of such a briquette indicates the heavy pressure under which it takes its shape, and the edges look like polished oak; in fact, it is heavier than a piece of hard wood of the same size. The demand created by the popularity of this fuel exceeded the supply of sawdust obtainable in the vicinity of the factory, so shiploads were procured from Sweden and carloads from distant manufactories. Sawdust, which previously could be had for the asking, demanded a market price as soon as it became known that a certain factory could make use of it. Even then, it was profitable to manufacture the briquettes; but, unfortunately, the factory was destroyed by fire. Insurance troubles have delayed its rebuilding. I was enabled to procure a few of the briquettes

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and forward a sample.* I am of the opinion that in our wood-working districts, the manufacture of sawdust briquettes without a binding material would pay well, and I am ready to furnish persons interested with the cost of the machinery necessary.

ADOLPH L. FRANKENTHAL,
BERNE, *November 5, 1901.* *Consul.*

A GERMAN FORECAST OF AMERICAN COMPETITION.

Under the familiar title of "The growing iron and coal exports of the United States," the Vossische Zeitung (Berlin), of November 11, publishes the following suggestive report from its correspondent at Essen:

In the circle of large operators in the Lower Rhine-Westphalian iron and coal district, the efforts of the United States to supply the continent of Europe with iron manufactures and coal are regarded with great interest and growing anxiety. A leading ironmaster of the Ruhr district recently expressed himself to a small circle of technical colleagues to the effect that within a period of ten to fifteen years America would be supplying all Mediterranean countries, including Austria-Hungary, with coal and iron. As reasons for this opinion, he stated that no other country can produce and transport iron in enormous quantities so cheaply and under such favorable conditions as the United States. When it is found that the necessary return freight from Europe for their coal ships is wanting, they will build their colliers so that they can use water ballast on their return voyage. The ocean-freight schedules of all maritime nations will be so depressed by this competition that the item of sea transportation will play practically no rôle in the economy of international trade. It will be then, even more than now, a simple question of which country can produce most cheaply, and that country will unquestionably be the United States, with its virgin soil and its inexhaustible mineral resources. An effective protection against this deluge of American products through high tariffs will be impossible, because the United States can dispense entirely with European-manufactured merchandise, and thus be in a position to close its frontiers to foreign trade. Europe will then have but one recourse which can provide any effective resistance to America, and that will be when all countries here form a close commercial union or league. Otherwise, the material strength and resources of the contestants will be too unequal.

FRANK H. MASON,
BERLIN, *November 12, 1901.* *Consul-General.*

* Filed in the Bureau of Foreign Commerce, where it may be examined by interested parties.

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THE GERMAN TARIFF VS. COMMERCIAL TREATIES.

The new German tariff has been passed by the Bundesrath without any material change, and it will be laid before the Reichstag immediately on the convening of that body in December. It would seem, therefore, that the bill as outlined stands a very good chance of becoming law without much alteration.

The subject which interests the German press most, in commenting on the new tariff, is the probable effect it will have on the renewal of commercial treaties in 1903. The sentiment is almost unanimously in favor of first reaching an agreement with the United States, and using this as a basis for concluding treaties with other nations.

Our food stuffs and manufactured goods have gained such a foothold in Germany that it will be a difficult matter to dislodge them. It is not probable that Germany will ever begin a tariff war with the United States.

Georg Gothein, member of the Reichstag and Prussian Diet, in an essay recently published, says:

> Many merchants and manufacturers, finding the American markets blocked by prohibitive duties, advocate a tariff war with the United States. They reason that inasmuch as Germany buys twice as much of the United States as we export to that country, we could force the United States into making us concessions.
>
> In 1900, we imported almost $188,000,000 worth of products from the United States. In case of a tariff war, 67 per cent of all these products would still have to be imported from that country. No other nation in the world can offer us a substitute for them. The cotton of India can not take the place of that of Georgia, nor Russian petroleum that of Pennsylvania or Ohio. America is the only country which can supply us with anything like the necessary quantities of indian corn, copper, phosphate, etc., and while Kentucky and Virginia tobacco is not of the best quality, still as smoking tobacco it has come very much into favor. Even if we succeeded in importing all our wheat, barley, oats, and lumber from Russia or Argentina, they are such marketable products in themselves that America would have no difficulty in selling them to other countries.
>
> The simple figures of the exports and imports of Germany with the United States do not give a true picture of the actual balance of trade. It would certainly be very gratifying if America could be induced to lower her tariff; but it is very doubtful if a tariff war is the best means of achieving this end. As long as a modus vivendi may be reached, it is always better not to go to extremes.
>
> In spite of the fact that the great majority of our complaints against the American tariff are justified, it must be borne in mind that the Americans have no reason to be satisfied with the treatment which they have received at our hands. In every tariff war which lasts for any length of time the benefits, if there are any, fall into the hands of a third party. In this case, nothing could be more advantageous to the commerce of Great Britain, and entirely at the expense of the Fatherland.

Many ardent advocates of the proposed tariff point to the success of the United States tariff as the best argument in their favor. It must be remembered, however, that there may be a great difference

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between the workings of such a tariff in various countries. There is no law of economics which will justify a tariff on food stuffs. Duties levied on products necessary for human nourishment—the very fuel which supports the engines of life—mean increase in the cost of production and restriction in the power of consumption.

In regard to the influence which the new tariff will exert upon the preparation of commercial treaties with other nations, Gothein says further:

For a country which in the highest degree is dependent upon the export of industrial products, and is in need of favorable commercial treaties, it is a dangerous principle to assume the aggressive with a high protective tariff. The doctrine that we may reduce these duties as negotiations proceed becomes a fallacy when we consider that other nations, but little developed industrially, may follow our example and also begin preliminaries with a high tariff. The new tariff, even if it should not become a law as outlined, must be looked upon as a failure, for the reason that other countries will increase their tariffs accordingly, thus rendering more than doubtful the probability of concluding commercial treaties. Above all, it is in the increased duties on grain that the greatest danger to the conclusion of these treaties lies.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *November 22, 1901.*

AGRICULTURAL MACHINES AND IMPLEMENTS IN RUSSIA.

In his annual report, dated November 9, 1901, on the commerce and industries of Odessa, which will be printed in full in Commercial Relations for 1901, Consul Heenan gives the following very interesting statement relative to the use of agricultural machines and implements in Russia:

The customs returns for agricultural machines and implements are given by weight, and it is absolutely impossible to enumerate the number of articles—such as harvesting machines, binders, mowers, rakes, etc.—with any degree of accuracy. The weight of the agricultural machines and implements imported at Odessa in 1900 is given at 3,600 tons. Other Black Sea ports received large quantities of these machines and implements during the year, but no returns are obtainable. The total imports of the Empire in 1900 amounted to 136,890 tons, while in 1899 it was 186,862 tons, thus showing a marked decrease. This falling off was due to the fact that it was known early in the season that the crops had failed over a large area, and there was therefore but little use for agricultural machinery.

Agricultural machinery, including steam thrashing outfits of a specified diameter, is admitted into Russia free of duty,* and this

*See CONSULAR REPORTS No. 250 (July, 1901), p. 411.

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will continue until 1903. Such machines as harvesters, binders, mowers, reapers of various designs, and horserakes, of American make, are so well and so favorably known as to defy serious competition. On the other hand, such articles as plows, drills, seeding machines, corn planters, cultivators, horsepower or steam thrashers, farm wagons, fodder choppers, etc., of American make, are not to be found in Russia. There is no reason why each and every one of the articles mentioned should not find a ready sale in this country; but it should be remembered that with a people so conservative in the use of modern machinery as are the farming classes of Russia, it takes both time and labor to sell agricultural machinery. There are many estates in Russia embracing thousands of acres on which not a single harvester or binder is to be found. American plows, as well as American thrashing outfits, are absolutely unknown, with, perhaps, in the case of steam thrashers, a few exceptions. In the case of plows, the price prevents the American article gaining a foothold in this country, as a German or a Russian plow can be purchased at less than half the cost. Such, however, is not true of thrashing outfits. The English have held the market for thrashers for a great many years, and still do the major part of the trade in these outfits. Of late the Germans have cut into this trade to an extent that threatens eventually to absorb the entire traffic. They have been able to do this by carefully copying the British machine, selling cheaper, and giving longer credit. The American engine and thrasher is made on the American model, and a very good model it is. The British and German outfits which come to this country are not made on the home models of either of these countries. They are made to suit the requirements of the Russian purchaser, and are both lower and broader than the outfits sold elsewhere. This remark applies to the thrasher. Another feature which the Russians are accustomed to, and insist upon, is the cleaning and separating of the grain by the thrasher. British and German thrashers have three spouts from which the grain is delivered, and these spouts separate the grain into three different qualities, or varieties, all of them being clean.

In the agricultural-machinery trade, Germany supplies 95 per cent of Russia's imports of single and double plows, drills, broadcast seeders, hand and horse power thrashing machines. Germany supplied Russia in 1900 with $110,982,500 worth of iron, agricultural and other machinery, etc., taking in return grain and other products to the value of $96,562,500. Great Britain comes next, supplying practically the same class of goods to the value of $65,920,000, but taking in return Russian products to the amount of $74,932,500. These figures show that Germany outstrips Great Britain by over 50 per cent in supplying Russia with industrial machines, etc. The

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imports from the United States are variously estimated at from $10,000,000 to $20,000,000, and in return Russia sends us very little. There is not much that Russia can send to the United States, except sugar. Silver ornaments, wool, goatskins, goloshes (old), hair, licorice root, and manganese ore form the principal articles of export to the United States, and to this trade there is naturally a limit. It should also be remembered that at least half the trade done between the United States and Russia consists of orders from the Russian Government.

The Germans are probably the only people who have a thorough knowledge of Russia in a business way, and they are said to suffer very few losses. Commercial agencies such as Dun's and Bradstreet's are not allowed in Russia. The Germans have a system of their own, and there are agencies in Berlin which can give the business rating of almost any firm in Russia. These agencies are said to receive quarterly returns regarding business houses in this country. It is not surprising, therefore, that the Germans should control so large a portion of the Russian trade. The Germans have agents in the principal towns of Russia, and these agents subdivide large areas in the various provinces, and each subdivision has an agent who is responsible to the principal in the large towns. These agents in every instance speak German as well as Russian. In addition to this, travelers are sent at least twice each year from Germany to visit the various agents and to keep account of the business done. Goods are sold on long credit, and are, as a rule, amply secured. This system is the result of many years of careful study and observation on the part of official as well as business Germany. Our business men would do well to take the Germans and their methods in Russia as models. In every instance when men are sent into this country to do business for American firms, they should be able to speak German. It would, of course, be even better if the traveler could speak the Russian language, but this is scarcely to be expected from American traveling men, though their German colleagues, as a rule, do speak Russian.

In a supplementary statement, Consul Heenan says:

The sale of American agricultural machines and implements during 1901 was the largest on record in this country. One well-known American firm, which has been long established in Russia, did a business which passed the million mark. Other American firms also did a large trade. The increased tariff exacted on certain American products* has not thus far made much impression on their imports. It is probably too early to determine the effect.

* See footnote, p. 244.

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RAILROADS IN RUSSIA.

The Russians are congratulating themselves, as well as the traveling public and commercial world, on the completion of the Chinese Eastern Railway through Manchuria, the extension of the Trans-Siberian Railway which furnishes direct connection between St. Petersburg and Port Arthur. It is expected that the trip will be made in less than twenty-eight days in the near future.

It is now just ten years since the first tie was laid on the Trans-Siberian Railway, which has been built from start to finish by Russian engineers and workmen, laboring under great difficulties and adverse climatic conditions, at a cost of 335,000,000 rubles ($172,525,000).

The distance from St. Petersburg to Vladivostock is 6,677 miles, and the fare is as follows:

	Rubles.	
First class	250	=$128.75
Second class	170	= 87.55
Third class	90	= 46.35

Details of distance and cost.

Route.	Distance.		Time in transit.	Rate.	
From Moscow to Irkutsk:					
First class—	*Versts.*	*Miles.*		*Rubles.*	
By express train			9 days	110.00	$56.65
By ordinary train			11 days	71.00	36.56
Second class—					
By express train			9 days	69.00	35.53
By ordinary train			11 days	43.00	22.14
From Irkutsk to station Barantchiki (by rail)	92	60.9	6 hours		
From Barantchiki to Massovaya, across Baikal (by steamboat or sledges).	62	41.1	4½ hours	*18.37	9.46
From Massavoya to Stretiensk (by rail)	1,034	685.5	4 days		
From Stretiensk to Blagoviestchensk (by steamboat)	1,137	753.8	8-12 days	11.37	5.85
From Blagoviestchensk to Khabarovsk (by steamboat)	911	603.9	6-9 days	9.11	4.69
From Khabarovsk to Vladivostock (by rail)	716	474.7	1 day	10.20	5.25
From Vladivostock to Port Arthur (by rail)			4 days	†55.00	28.32
From Khabarovsk to Port Arthur, via Nikolskoye			6 days		

* Second class. † First class, with board.

The Manchurian road consists of two branches: The principal, from the station Manchuria to Sungari, 876 versts (580.7 miles) long; and the south line, from Sungari to Port Arthur, 924 versts (612.6 miles). The Ussurijsk line to Vladivostock is 208 versts (137.9 miles) in length.

The Trans-Siberian road was built with light rails—some of which only weighed 12 pounds to the foot—wooden bridges, light equipment, cars without trucks; and in many cases, the track was laid on marshy soil. As a consequence, it has been impossible to make

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time or take care of the business offered. These defects, however, are being remedied as rapidly as the means can be provided to meet the expenses, which in some sections will amount to 50 per cent of the original cost.

The conductors, porters, and trainmen are all Russians and do not understand English, but occasionally one is found who speaks a little German or French.

The route is through a country resembling Kansas and Nebraska, and is quite as hot and dusty during the summer months.

It requires eight days to make the journey over the first part of this road, which ends at Irkutsk, where all passengers change cars. Trains leave Moscow for Irkutsk twice a week—Wednesdays and Saturdays at 8 o'clock p. m.—and leave Irkutsk for Moscow on Mondays and Fridays at midnight. Each train consists of nine cars, and they carry second-class carriages as well as first, and are very comfortable; the passengers all eat in the same restaurant cars, and excellent buffets are to be found at the various stations on the route.

The train de luxe, consisting of vestibuled cars, leaves Moscow every ten days. The cars are high and roomy, and are lighted by electricity. Each has four compartments, exclusive of the general parlor, which is in the center, and is provided with a table, lounging chair, maps, mirrors, etc. Three of these compartments are for four persons and one is for two. The berths run crosswise, are unusually high, and are luxuriously furnished. The wood is of a dark-red color, ceilings white, and the walls are overlaid with gray stamped leather. The divans are covered with dark-red leather, and are converted into beds at night. There are plenty of racks for baggage and hooks for clothing. The floor is covered with linoleum in the summer and heavy carpet during the winter. In the aisle along the side into which the rooms open, there are collapsible seats, which will answer for a short time while looking at the scenery. There are call bells for the porter and waiter in the restaurant car. The toilet rooms on this train are tiled and the upper part is of light wood, but both sexes use the same room and travelers are advised to carry their own toilet articles. There is plenty of cold water, which is a luxury on a European railway train. Little or nothing is seen of the porter after he makes up the beds in the morning, and the presumption is he sleeps all day. At the rear of the last car is an observation parlor, from which a fine view of the country can be had.

It is a three-hour ride from Irkutsk to Lake Baikal, which is crossed by steamer during the summer and by sledges (in seven hours) during the winter. The railroad is being built on the south bank of the lake, but will not be completed before 1903.

The Trans-Siberian train leaves the east bank of the lake on the arrival of the boat and proceeds to Stretiensk, on the Chilka

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River, the actual terminus of the line, a run of sixty-four hours. Steamers with indifferent accommodations and food run regularly from Stretiensk to Khabarovsk, on the Amur River, which occupies fifteen days, more or less, according to the depth of the water and length of stoppages.

The railway is completed from Khabarovsk to Vladivostock, a distance of 400 miles, requiring twenty hours for transit.

From Vladivostock, there are steamers with connections for Japan, Korea, and Shanghai, any of which can be reached in six days, while San Francisco can be reached in fifteen days.

Prince Hilkoff, the Minister of Ways and Communications, has recently issued a valuable guide to the Trans-Siberian Railway in English, containing all the information the average traveler desires to have about the history, country, trade, people, etc., on the line of this great highway. It is handsomely illustrated and covers 520 pages, and can be purchased in Paris and London and of Mr. M. V. Rutkovski, agent of the Russian Minister of Finance, care of Russian embassy at Washington, D. C., for $3.25.

Russia realizes the absolute necessity for additional railroads, in order to move her crops and insure the settlement of her uninhabited territory, and has already made elaborate plans for the next decade; but while she possesses natural resources of practically unlimited value, she lacks for the present the ability to build the roads without the aid of foreign capital.

In view of the recent loan successfully floated in France, which will, it is believed, be used to build new railroads, the following will be of interest:

The February earnings of railroads in European Russia were 27,038,362 rubles ($13,914,636), against 26,952,885 rubles ($13,880,736) in the previous year, an increase of 85,477 rubles. In the first two months of the present year, the gross earnings were 56,463,062 rubles ($29,078,477), and for the same period of the previous year 54,635,629 rubles ($28,137,349), an increase of 1,827,433 rubles ($941,128). It appears that during the same period there was a decrease in passengers this year of 258,598, but an increase in freight of 43,974,000 poods (793,994 tons).

The greatest prospects of railroad building in European Russia are lines direct to Viatka and Kief. The first would, it is estimated, open the enormous agricultural northern district and very materially affect the importance of St. Petersburg. A direct line to Kief would diminish the time taken in going to that town by at least one-half.

An imperial ukase has been issued, ordering the construction of the Orenburg-Tashkent Railroad, in order to relieve the famine-stricken population of the eastern provinces of Russia and give

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employment to the iron works in the same provinces, which are suffering from want of activity.

The new line runs from Orenburg to the Iletzki station, thence along the northern shore of the Caspian Sea to Kazalinsk, on the Syr-Daria River, through the towns of Perovsk, and Djulek, Turkestan, and digresses somewhat north from the current of the Syr-Daria, toward Tashkent. The line will be 1,762 versts (1,068 miles) in length. From Orenburg to the Mugodjarsk Mountains, it will cross an area of 400 versts (265.2 miles) of good farming land, besides touching the rich Iletzki salt mines. The next district is a desert, where the nomad Kirghiz live. From Kazalinsk, the line will cross the fertile valley of Syr-Daria, with a population of 1,500,000, whose trade amounts to about 50,000,000 rubles ($25,750,000) per year. The Tashkent and Chikment districts are the principal exporters of cotton, and they will be given a new market by means of this line.

W. R. HOLLOWAY,
Consul-General.

ST. PETERSBURG, *November 16, 1901.*

RUSSIAN HARVEST IN 1901.

The Gazette of Trade and Industry, published by the Minister of Finance, says:

The harvest of this year is, in general, "under the average;" it is particularly "bad" in the east and southeast, and "good" only in the southwest provinces of Russia.

The harvest of winter rye was "near to average" in the black-earth region and "average" in the other regions of Russia. A "bad" harvest of rye is reported in the lower part of the Volga region, the Don troops region, and the Ural, Vistula, Ekaterinoslav provinces; it was good in the southwest, Bessarabian, and Kherson provinces, and "near to average" or "somewhat above average" in the rest of Russian provinces.

The harvest of winter wheat was generally "above the average," but it was "bad" in the Don region, Ekaterinoslav and Vistula provinces, and "under average" in the Baltic provinces.

In consequence of unfavorable meteorological conditions during the summer, the harvest of spring cereals is, generally speaking, "under the average" and "bad" or "unsatisfactory" in the east and southeast provinces. This means, in the first place, oats and spring wheat, the harvest of barley and millet being somewhat better.

The crop of oats was "bad" in the lower part of the Volga region, in the Saratov, Ufa, Ekaterinoslav provinces, and the Don region; it was "unsatisfactory" in the Riazan, Tambov, Voronesh, Simbersk, Penza, Kazan, Vladimir, Kaluga, Moscow, Vilna, Vitebsk, and Ural provinces; "average" or "near to average" in the rest of European Russia, with the exception of the north-provinces, where it appeared to be "above the average," and the southwest, Bessarabian, and Kherson provinces, where it is acknowledged to be "good."

The crop of spring wheat is "bad" in the east and southeast of Russia.

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The regions of "good," "satisfactory," and "bad" crop of barley correspond with those of oats.

Millet gave a good crop in the southwest provinces and was quite satisfactory in the Little Russian, Bessarabian, and Kherson provinces.

Pease and buckwheat gave poor crops in all provinces where winter corn was bad, and were "unsatisfactory" or "average" in other parts of Russia.

The crop of flax and hemp was "unsatisfactory" in the industrial and White Russian provinces, and "bad" in other regions.

The harvest of the sunflower was n ediocre.

The potato crop was "average" or "near to average" in the industrial, White Russian, Lithuanian, north, and Vistula provinces, and "unsatisfactory" throughout the rest of Russia.

Approximate calculation of the crop of principal grains on trial thrashings in 1901.

Provinces.	Rye.		Winter wheat.		Spring wheat.	
Black-earth region.	*Poods.**	*Bushels.†*	*Poods.**	*Bushels.‡*	*Poods.**	*Bushels.‡*
Central provinces	216,226,000	139,434,880	13,010,000	7,828,619	9,617,000	5,788,150
Central Volga provinces	176,801,000	114,011,387	477,000	287,090	16,566,000	9,970,523
Lower Volga provinces	26,029,000	16,767,129	.....	.....	32,184,000	19,370,476
Novorossisk provinces	58,345,000	37,624,190	58,318,000	35,099,660	152,948,000	92,054,302
Southwest provinces	101,098,000	65,193,749	82,571,000	49,696,732	5,805,000	3,493,836
Little Russian provinces	75,452,000	48,653,761	8,764,000	5,274,759	36,859,000	22,184,203
Total	653,951,000	421,685,096	163,140,000	98,186,860	253,979,000	152,861,490
Not black-earth region.						
Industrial provinces	94,029,000	60,635,272	.....	.....	1,295,000	779,417
White Russian provinces	75,705,000	48,818,910	1,350,000	812,520	1,561,000	939,513
Ural provinces	65,028,000	41,933,770	.....	.....	15,369,000	9,250,089
North provinces	24,603,000	15,865,420	.....	.....	1,096,000	659,646
Lake provinces	39,461,000	25,445,707	295,000	177,550	.....	.....
Lithuanian provinces	46,678,000	30,100,642	4,483,000	2,698,168	596,000	358,712
Baltic provinces	25,535,000	16,466,427	2,278,000	1,371,052	534,000	321,397
Total	371,039,000	239,266,148	8,406,000	5,059,290	20,450,000	12,308,774

Provinces.	Oats.		Barley.		Millet.	
Black-earth region.	*Poods.**	*Bushels.§*	*Poods.**	*Bushels.‖*	*Poods.**	*Bushels.¶*
Central provinces	81,383,000	81,636,191	6,466,000	4,864,587	26,206,000	18,927,021
Central Volga provinces	48,159,000	48,308,828	2,178,000	1,638,582	10,581,000	7,642,021
Lower Volga provinces	9,678,000	9,708,109	2,411,000	1,813,875	1,916,000	1,383,812
Novorossisk provinces	23,934,000	24,008,461	121,742,000	91,590,564	6,883,000	4,770,778
Southwest provinces	66,040,000	66,245,457	27,550,000	2,072,678	22,901,000	16,540,018
Little Russian provinces	27,297,000	27,381,924	25,146,000	18,918,174	9,508,000	6,867,059
Total	256,491,000	257,288,970	185,493,000	120,898,460	77,995,000	56,130,709
Not black-earth region.						
Industrial provinces	47,913,000	48,062,062	7,731,000	5,816,289	.....	.....
White Russian provinces	39,354,000	39,476,434	10,182,000	7,660,258	.....	.....
Ural provinces	56,613,000	56,789,129	10,140,000	7,628,660	.....	.....
North provinces	13,059,000	13,099,628	5,986,000	4,503,467	.....	.....
Lake provinces	29,049,000	29,139,374	6,269,000	4,716,377	.....	.....
Lithuanian provinces	21,230,000	21,296,048	8,631,000	6,493,380	.....	.....
Baltic provinces	17,704,000	17,759,079	14,508,000	10,914,852	.....	.....
Total	223,922,000	225,621,754	63,447,000	47,733,292	.....	.....

* 1 pood = 36.112 pounds.
† 56 pounds of rye equal 1 bushel.
‡ 60 pounds of wheat equal 1 bushel.
§ 36 pounds of oats equal 1 bushel.
‖ 48 pounds of barley equal 1 bushel.
¶ 50 pounds of millet equal 1 bushel.

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The following summary of the above figures may be made:

Provinces.	Rye.		Winter wheat.		Spring wheat.	
	Poods.	*Bushels.**	*Poods.*	*Bushels.†*	*Poods.*	*Bushels.†*
In 50 provinces	1,024,990,000	660,972,125	171,546,000	103,247,819	274,430,000	165,170,269
Vistula	66,788,000	43,068,718	20,964,000	12,617,533	280,000	168,522
Caucasus	9,117,000	5,879,162	65,637,000	39,504,722	18,890,000	11,369,261

Provinces.	Oats.		Barley.		Millet.	
	Poods.	*Bushels.‡*	*Poods.*	*Bushels.§*	*Poods.*	*Bushels.¶*
In 50 provinces	480,413,000	481,907,340	248,940,000	187,285,880	77,995,000	56,130,700
Vistula	45,531,000	48,450,429	21,100,000	1,587,423	.....	.....
Caucasus	10,660,000	10,693,136	34,249,000	25,766,872	14,856,000	10,729,597

* 56 pounds of rye equal 1 bushel.
† 60 pounds of wheat equal 1 bushel.
‡ 36 pounds of oats equal 1 bushel.
§ 48 pounds of barley equal 1 bushel.
¶ 50 pounds of millet equal 1 bushel.

W. R. HOLLOWAY,
Consul-General.

ST. PETERSBURG, *October 31, 1901.*

GERMAN-MEXICAN STEAMSHIP FACILITIES.

Under date of November 9, 1901, Consul Canada, of Veracruz, transmits a newspaper clipping giving the chief articles of a new steamship concession, as follows:

ARTICLE 1. The German company of Hamburg steamers, called the Kosmos Line, obliges itself to establish a monthly service of steam navigation between the ports of Hamburg, Antwerp, London, Acapulco, Manzanillo, San Blas, Mazatlan, and San Francisco, Cal., with calls during the return trip at the Mexican ports of Acapulco, Manzanillo, San Blas, and Mazatlan. The company is also empowered, if it suits its interests, to touch, either on the outward or homeward trip, at the ports of Salina Cruz, Puerto Angel, Tonala, and San Benito, on condition of giving notification in advance to the Department of Communications and Public Works and the several post-offices of the ports at which calls are made.

The steamers of the company will also make calls at the ports of Santa Rosalia, Guaymas, or other ports of the Gulf of California, subject to the same condition.

The company agrees that the steamers above mentioned shall make connection each month at Hamburg, Antwerp, or London with other steamers of the same company plying between those cities and Mediterranean ports, thus providing a monthly service between Mediterranean ports, Mexican west-coast ports, and San Francisco, Cal.

ARTICLE 4. The company agrees to carry mail matter between Mexican and foreign ports free of charge.

ARTICLE 8. In compensation for the mail service and carriage of Government cargo, the company's steamers will be exempted from the payment of 60 per cent of the tonnage dues created by decree of July 1, 1898.

If the company shall in future render services equal to those performed by companies enjoying a rebate of 75 per cent of the tonnage dues, the latter rebate shall also be enjoyed by this company.

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ARTICLE 16. The company obliges itself to carry free of charge, on each round trip made by its steamers, as much as 10 metric tons, of 2,204 pounds per ton, of merchandise consigned to the several ministerial departments of the Mexican Government.

If the cargo carried on account of the Government shall exceed 10 metric tons, the freight on the excess shall be collected from the department owing same, according to the regular tariffs of the company.

ARTICLE 20. This contract shall begin to be operative from the date of its promulgation and shall hold good for five years, which may be extended for similar periods of time if neither party gives notice, six months before its expiration, of a desire to terminate same.

GERMANY'S COMMERCE WITH BRAZIL.

The following tables will show the extent of Germany's commerce with Brazil during 1900:

Exports to Brazil.

Article.	Quantity.	Value.
	Tons.	
Hosiery	263	$376,754
Wire	6,452	279,412
Iron products	786	462,958
Metal goods	3,467	737,086
Pictures	54	148,988
Glass	3,570	123,784
Jewelry	3,302	480,998
Leather	68	162,316
Machinery	1,703	458,388
Paper goods	4,094	459,340
Rice	11,619	548,828
Textiles	936	1,060,270
Total	36,314	5,299,122

Imports to Brazil.

Article.	Quantity.	Value.
	Tons.	
Coffee	91,824	$17,483,242
Cocoa	3,777	1,277,394
Rubber	613	802,298
Tobacco	11,349	3,646,636
Hides	9,467	2,812,784
Total	117,030	26,022,354

The United States, during the fiscal year 1900, exported to Brazil manufactured products to the value of $11,578,119, while our imports from that country amounted to $58,073,457.

To-day, there are more than 300,000 Germans located in southern Brazil. In Santa Catharina and Rio Grande do Sul, thriving

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colonies have been established. The city of Porto Alegre contains 33,000 German inhabitants, who carry on a foreign commerce valued at $25,000,000 annually.

Germany is putting forth every effort to take advantage of the commercial opportunities offered in southern Brazil. Steamship lines and banks have been established, and German capital is constructing railroads, bridges, electric plants, factories, canals, etc.

JNO. F. WINTER,
Consul.

ANNABERG, *November 1, 1901.*

FREIGHTS FOR SOUTH BRAZIL.

Consul-General Seeger writes from Rio de Janeiro, October 8, 1901:

I have had several conferences with the new directors of the Brazilian Lloyd Steamship Company, in order to secure for American shippers better facilities and cheaper rates for goods in transit to South Brazilian ports.

The following letter from the board of managers of this company will probably be of interest to some of our export houses:

LETTER FROM BRAZILIAN LLOYD COMPANY TO MR. SEEGER.

In reply to your verbal inquiry, I beg to inform you that the Companhia Lloyd Brazileiro are fully prepared to receive cargoes or any merchandise arriving from the United States for delivery at any of the ports of call on the Brazilian coast served by their steamers at the following rates, viz: For Victoria, Paranagua, Desterro, Antonina, Saõ Francisco, and Rio Grande do Sul, 15s. ($3.64) and 5 per cent per ton; for Pelotas and Porte Alegre, 20s. ($4.86) and 5 per cent per ton. All parcels or consignments less than 30 tons will be received on condition that the expenses of transfer be borne by the steamer from the States, and all cargo or consignment over 30 tons will be received by the Lloyd at their expense.

A separate manifest in duplicate must be forwarded, with full particulars of the cargo for each port of destination, to facilitate the transit of same through the custom-house and avoid delays.

Steamers bringing cargo for transshipment as above should telegraph this company from the previous port of call, advising as to the quantity of cargo to be transferred and to what ports.

Through bills of lading will be accepted for all ports, but must be specially marked in transit for the port of destination—[the marks] always agreeing with the manifest for that port.

There will be no trouble whatever in forwarding goods in this manner, as every care will be taken in handling the freight to insure delivery in good condition.

I also beg to hand you a table of prices of passages by these steamers,* to which must be added a transport tax, which is calculated at 3 per cent on the

* Filed for reference in the Bureau of Foreign Commerce, where it may be consulted by interested parties.

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amount of passage money up to 90 milreis ($15.30*); and on all amounts above 90 milreis the sum of 3 milreis (51 cents) will be charged for transport tax.

The dates of sailing of the steamers from Rio de Janeiro on the northern line are the 4th, 12th, 22d, and 28th of every month, and of the steamers on the southern line the 1st, 7th, 14th, 20th, and 25th of every month.

I will be pleased to forward you any further details or particulars that you may wish to know relative to the service of transit cargoes on this coast.

PROJECTED RAILWAY IN SOUTHERN BRAZIL.

Vice-Consul-General Murphy sends from Frankfort, November 14, 1901, translation from the Frankfurter Zeitung relating to the projected extension of the railway system of southern Brazil, as follows:

Complaint has frequently reached us from German-Brazilian circles concerning the withholding of German capital from profitable enterprises in southern Brazil, in spite of the fact that the North Americans are making great exertions to obtain a firm footing in the German colonies.

There is now much talk among German Brazilians in regard to railway projects. On this subject we have received, from an interested party in Porto Alegre, a memorandum giving detailed information concerning plans for a railway from Porto Alegre, the capital of Rio Grande do Sul, to Pelotas, in the southern part of the same State. Below we give some of the most interesting particulars contained in this memorandum:

The railway is to pass in the vicinity of the village of Pedras Blancas and the towns of Dores and Sao Joao de Camaquam. The plans are to be completed and presented within three years, and the road must be finished within six years. Within a zone of 10 kilometers (6.2 miles) on each side of the track, all land can be purchased by the company at the rate of 4 milreis (60 cents) per hectare (2.4 acres), except such as has been utilized by the Government or is legally in the possession of private parties. The intention is that this land shall be used by the railway company for the establishment of colonies of Brazilian and foreign farmers. The line is to be 280 kilometers (174 miles) long, with a gauge of 1 meter (3.28 feet). Most of the rolling, stationary, and floating material needed for the railway and the steam ferry on the Guahyba River will have to be imported from abroad, and the State government will secure from the Federal Government exemption from duty for all such materials. With the advantage of this exemption from duty, the cost per kilometer (0.62 mile) will be about 40,000 milreis ($6,000). The total cost is estimated at 12,000,000 milreis ($1,800,000).

The railways now in existence in the State of Rio Grande do Sul belong either to the Government (which has leased them to private concerns) or to English and Belgian companies. As has already been mentioned, the North Americans are now on the point of making their first investment of capital in Rio Grande. The projected Rio Grande Northwestern Railway is German, and it is chiefly a colonization enterprise. Porto Alegre and its "hinterland" has 500,000 inhabitants, of whom 250,000 are of German or Italian descent.

*Taking the market value of the milreis at 17 cents.

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PHOTOGRAPHIC APPARATUS AND SUPPLIES IN BRAZIL.

The trade of Bahia in photographic apparatus and supplies prior to the last six months was confined almost entirely to the purchases made by the few professional photographers, who in most cases were direct importers.

No attempt had ever been made to start a regular photo-supply business, and there was no store at which cameras could be purchased.

The few amateurs in existence had all brought their cameras with them from abroad and had to be content with what supplies they could obtain from the professionals, except that one or two of the import drug houses kept for sale some of the necessary chemicals; but often there would be long and vexatious delays, because the supply of such necessaries as hypo, chloride of gold, sulphite of soda, etc., would run out long before a new stock would arrive, while films could not be bought at any price and plates only now and then, and in small quantities.

CAMERAS.

About six months ago, the proprietor of a men's furnishing store—an ardent amateur—was induced by this office to handle photographic apparatus and supplies. He sent an order to the United States for fourteen cameras of several different styles and sizes, and sold all within a week after obtaining them from the custom-house. Immediately he ordered four dozen more, which arrived a few weeks ago and met with almost the same demand as those first received, and a third order has gone forward.

Encouraged by the success of the firm mentioned, another party has purchased a line of our cameras and has met with fair success; he would do better were he in a position to advertise and show them, and if he had a full collection of supplies and accessories.

The cameras have given general satisfaction, and since they were the first placed on sale, and their price, finish, compactness, and working qualities are superior to those of foreign manufacture, European apparatus will probably be kept from entering.

The cameras imported have been of all grades and sizes, from our cheap, single lens to the most expensive, with complicated mechanism; though the one that seems most popular is the smaller size of what is styled "cycle camera" with rapid rectilinear lens, bulb shutter, and single swingback. A decided preference is shown

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for plate holders of metric sizes, doubtless because supplies have always been imported in these sizes; this system is used in this country.

PLATES.

I regret that our accessories—plates, papers, and chemicals—have not followed the cameras. The plates used are all imported from France and England—the Lumiere, which has the largest sale, coming from the former country, and the Illford and Marion from the latter. I can not find that our plates have ever been sold here; at any rate, they are at present practically unknown. I have recently had inquiries as to our product, and trust that our makers will be able to secure a part, if not all, of the trade. What is wanted is a plate of metric measurement, particularly 9 by 12, 13 by 18, 18 by 24, and 24 by 30 centimeters, which can stand climate similar to that of our Gulf States, with a temperature seldom above 90 F., but with more than 85° humidity and at times frequent showers. The plates should be capable of being worked without ice in the developer, without frilling or softening after being washed with water of from 65° to 75° F.; and should be of good speed and rich in silver.

PAPERS.

The papers in use are gelatin printing-out paper, both plain and matte, and a quick-printing developing paper. These papers come from England and France, are packed in bundles of 1 and 2 dozen sheets of cut sizes, the sensitive paper being first wrapped in several sheets of oiled or other paper impervious to moisture, and finally placed in nonactinic envelopes and sealed.

There is considerable albumen paper employed, but its use is confined to the professionals, who import the albumenized paper and sensitize as needed. A little of the platinum paper in sealed tubes has come of late, but its use is limited to a few professionals who have quite recently introduced platino prints. These are not in much demand, because of their expensiveness.

From the United States there has come a little ferroprussiate paper in cut sizes, packed in sealed tin tubes, and also another water-development paper which has met with fair success.

There has also been a little bromide paper imported from Europe, but its use has been confined almost exclusively to enlargements, which are not particularly popular here.

What is needed is good gelatin and collodion papers, which will keep fresh for a few months, do not need complicated formulas for toning and fixing, and can with safety be washed in water of the temperature already mentioned. It is also essential that the

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paper should make prints which will not soon fade, provided they have been properly manipulated. There should be a good market for development paper of different grades, and particularly those bromide papers which give platinum and carbon effects. Our water-development platinum and other papers should take well with amateurs.

Paper and plate makers entering this market would do well to have their formulas printed in Portuguese, or, in lieu of that, Spanish or French; directions in English can be read by very few.

We have many brands of paper and plates on the market in the United States which fill the above requirements. I am sure of this fact, as I have been using our plates and papers here for more than three years, and under more trying conditions than would be the case with most amateurs or professionals; yet I have had but little cause for complaint, other than the perverseness of our dealers in neglecting to pack and ship in accordance with most explicit directions, added to the fact that the freshest stock is frequently not supplied.

STUDIO FITTINGS.

There seems to be an entire lack of knowledge here as to our superior backgrounds and studio furniture and fittings, and with proper effort something could be done along those lines, though sales would of necessity be very limited because of the small number of professionals, and the inability of most amateurs to purchase such equipment.

MOUNTS.

The mounts in use all come from England, and do not compare with ours as to beauty, design, or workmanship. With the exceptions of a few mounts recently imported by an English photographer, our mounts are entirely unknown. There should be a good opening for modern mounts for professional use and various kinds of slip in mounts and albums for amateurs, while our special platino mounts should be used for all pictures of that class, instead of the ordinary mount, as is now the case.

It should be remembered that the duty on mounts is by weight; therefore, the desire is to import as thin yet rigid a mount as possible, and that should be kept in mind in submitting samples.

DEVELOPERS.

Until recently, the professional photographers have for the most part been using iron developer, but now they seem to have turned to metol and hydroquinone. Two are relying chiefly on pyro. The amateur uses metol and hydroquinone, either separate or combined, while a few are using glycin.

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The developing agents are almost exclusively of German manufacture, as is the case even with us; consequently, we can not compete in that line. But with such chemicals as hypo, the various forms of potash and soda, gold, platinum, sugar of lead, etc., we should be able to compete with England and France, who now enjoy the trade, particularly since the largest dealer here has expressed to me a desire to buy all of his supplies, as well as his cameras, from the United States.

In chemicals, the anhydrous preparations of sodium carbonate, sodium sulphite, potassium carbonate, etc., are imported because the duty charge is by weight. Such preparations do not require much care and do not deteriorate in this climate, while the crystalline preparations soon spoil.

H. W. FURNISS,
Consul.

BAHIA, *October 10, 1901.*

COTTON AND FLOUR MILLS IN SAO PAULO.

COTTON MILLS.

It is of interest to note the march of national industries in the State of Sao Paulo; many articles are now manufactured here and find a market to the exclusion of foreign makes. There are no less than 14 cotton mills within this State—3 in Sorocaba, 1 in Tatuhy, 1 in Salto Ytú, 1 in Piracicaba, 1 in Jundiahy, 1 in Villa Americana, 1 in Itapetininga, and 5 in the city and district of Sao Paulo. All of these mills except one do their own spinning as well as weaving. They manufacture oxfords, zephyrs, and plain calicoes—principally colored goods. Some have over 200 looms and employ 300 or 400 men. The average output may be stated at 8,000 meters per day. All the mills work full time and are well managed; the heads of the various departments being practical men, mostly from the Lancashire towns of England.

The goods manufactured are of very fair quality; while they are not as well finished as the imported articles, they are apparently as durable. Some of the gray goods are of fine counts.

Bleaching also is performed to a small extent. The greater part of the cotton employed is obtained from Sao Paulo State.

The machinery, I am informed, is mainly of English manufacture.

FLOUR MILLS.

There are two mills in this district—one at Santos, the other between this city and Sao Paulo—both owned by an Italian firm.

I am informed that the consumption of flour in the city of Sao

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Paulo alone is estimated at 130,000 sacks per month, and in Santos at about 30,000 bags.

A few days ago, I visited the mill here. The average daily output of flour is 1,500 bags, and of bran 500. Additions are being made to buildings and plant. The machinery is modern, and most, if not all, is of American construction. I was not a little surprised, however, to find the name of a Manchester firm boldly embossed on iron plates and firmly screwed onto the machines, while the name of the Illinois firm which made them was nearly obliterated. We should have a line of vessels plying between Brazilian ports and New York, so as to obviate the necessity of sending goods by way of England and Germany, where such alterations may take place.

JOHN J. GIRIMONDI,

SANTOS, *October 16, 1901.* *Consul.*

GOLD STANDARD IN PERU.

Mr. Neill, secretary of legation at Lima, under date of October 21, 1901, sends translation of an editorial which appeared in El Commercio, of that city, regarding the establishment of the gold standard. The article says, in part:

More than four years ago, the Government of Peru suspended the free coinage of silver, as the first step toward the establishment of the gold standard on the basis of 24d. (48.6 cents) as the fixed value of the monetary unit. A decree was issued, in accordance with the law of October, 1897, ordering the payment of import duties to be made in gold, a pound sterling canceling 10 soles of import duty, a fine of 5 per cent being imposed on payments not made in gold. The first of these measures established legally the equivalent of 1 to 10 between the pound sterling and the Peruvian sol, and the second facilitated the introduction of gold coin into the country. The law empowered the Government to invest the sum produced from the 5 per cent fine, to defray the expense of resmelting the silver soles into bars. This measure, while it tended toward the diminishing of the amount of silver coin in circulation, also promoted the increase of the gold medium. In fact, the suppression of 2,500,000 soles, and their conversion into pounds sterling (English gold), at an expense of but 350,000 soles, was sufficient to initiate the introductory step of the adoption of the gold standard. Since January 1, 1898, up to date, over £600,000 ($2,919,900) have been imported, and £200,000 ($973,300) have been coined at the mint. The coinage service is thoroughly established, and a law has been passed making the Peruvian gold pound legal tender with full cancellatory powers. But little gold has left the country, while the production of national gold increases year by year. The anxiety which has prevailed during the past few days on account of the concealment of gold coin points to the advisability of putting an end to the transition period and of limiting the cancellatory power of our silver soles by fixing a maximum, which may be reduced from year to year. By this means, all doubts as to the higher or lower relative value of the two legal tenders which have existed up to the present will be settled and the absolute gold standard established in our monetary system. While the present order

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of things continues, any prospect of gain will lead to the hoarding of either gold or silver, thus causing a scarcity of the circulating medium. Common sense advises us to pass to an absolute gold circulation, which was the intention when the monetary reformation was commenced, and to this end the project submitted to the Senate yesterday, declaring the Peruvian gold pound to be the monetary unit, has a direct tendency.

BAGGAGE OF DIPLOMATIC OFFICERS IN MEXICO.

Minister Clayton transmits from Mexico, November 5, 1901, translation of regulations for the importation of goods belonging to diplomatic officers accredited to that country (forwarded through the Minister of Foreign Affairs), as follows:

DECREE OF THE PRESIDENT OF THE REPUBLIC, SEPTEMBER 11, 1901.

Porfirio Diaz, constitutional President of the United Mexican States, to the people thereof, know ye:

That in the exercise of the power conferred upon the Executive by article 2 of the importation law in force, and considering:

First. That, for reasons of courtesy and reciprocity, it is proper to establish a liberal rule for the importation of baggage, articles of travel, and foreign goods for the use of chiefs of diplomatic missions accredited by their respective governments to that of the Republic;

Second. That, as it is desirable because of these considerations that this exemption should be extended to persons who come to this country as delegates of their governments to execute special commissions, or who, not coming in such capacity, may exercise or hold prominent official positions or dignities in their own country;

Third. That, as the progress of human knowledge should be encouraged by facilitating the labors of commissions sent to this country by foreign academies, institutes, museums, and scientific societies, for the purpose of making investigations in the interests of the sciences to the study of which they are devoted, I have deemed it proper to issue the present decree of reform of the customs ordinance now in force.

Article 1.

No import duties, nor any other tax because of the same, shall be collected by the custom-houses or the stamp offices on—

(*a*) Foreign articles imported directly by chiefs of diplomatic missions accredited to the Republic for their own personal use or that of their families.

(*b*) Articles transmitted by the chief of a foreign state or foreign government to its official agents, or to Mexican institutions or functionaries.

(*c*) Coats of arms, seals, and office supplies for foreign legations and consular offices.

(*d*) Baggage and the various articles of travel of the personal use of the secretaries and employees of foreign embassies and legations in the Republic.

Article 2.

When, in the opinion of the Executive, the circumstances may warrant the concession, these exemptions may be extended to—

(*a*) Baggage and the various articles of travel of the personal use, and the household goods belonging to chiefs of Mexican diplomatic missions returning from abroad, the mission having been concluded.

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(*b*) Baggage and the various articles of travel of the personal use of delegates of foreign governments who come to the country on official missions, or of persons who, although they may not come in such character, may hold prominent official positions, or dignitaries in their own country.

(*c*) The apparatus, substances, and articles of travel of personal use imported by special permission of the Department of the Treasury, by official commissions of foreign academies, institutes, museums, and scientific societies which may come to make investigations or studies in the territory of the Republic.

Article 3.

Baggage and articles of travel of the personal use of chiefs of foreign and Mexican missions, those of the secretaries and employees of foreign and national embassies and legations and the articles mentioned in sections *b* and *c* of article 1; provided that those mentioned in the latter section shall be transmitted to the legations and consulates by the department of state of their respective countries, shall be dispatched without examination by the custom-houses of the Republic.

The examination of all other goods mentioned in the two preceding articles shall be made with care and courtesy in the presence of the parties interested or in that of such persons as they may designate; provided that said formality be not dispensed with by express order of the Department of the Treasury.

Article 4.

The exemptions granted by the present decree shall be subject to such regulations of a general character as may be prescribed by the Department of the Treasury, to the provisions of the general customs ordinance which the said regulations may not modify and to provisions and limitations which the said Department may deem it proper to prescribe in each case.

Article 5.

All the articles of the general customs ordinance relating to the dispatch of goods intended for the use of ministers and diplomatic agents, the decrees of May 22, 1885, July 11, 1887, the provisions contained in the decrees of May 15, 1896, and March 22, 1898, relating to such dispatch, and all laws, circulars, and other provisions in regard to the matter published up to the present are revoked.

Wherefore, I order that it be printed, published, and circulated, and that it be duly observed.

Done in the National Palace of Mexico on September 11, 1901.

PORFIRIO DIAZ.

REGULATIONS FOR THE IMPORTATION AND DISPATCH OF GOODS FOR THE USE OF FOREIGN DIPLOMATIC MISSIONS.

The President of the Republic has been pleased to approve the following regulations for the importation and dispatch of foreign goods consigned to chiefs of diplomatic missions and for the other importations mentioned in the decree of this date:

Article 1.

The dispatch of goods intended for the personal use or that of the families of ambassadors, envoys extraordinary, or ministers plenipotentiary, ministers resident, and chargés d'affaires, accredited to the Republic, shall be subject to the following rules:

I. The goods must be imported under consular invoice and shall be delivered by the custom-house of Mexico.

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II. The Department of the Treasury will inform the general direction of customs of the names of the persons who now have a right to exemption in accordance with the decree of this date and according to the list which the Department of Foreign Affairs will furnish for the purpose, in order that the said office may transmit the same to its dependencies. The changes which may occur in the personnel of the chiefs of foreign missions shall be communicated by the Department of Foreign Affairs to that of the Treasury, and by the latter to the respective offices.

III. Upon the arrival by vessel or railway of packages consigned to persons whose names and official character have been communicated to the custom-houses in the terms indicated by section 1, the treasury of the proper custom-house shall form, after the discharge of the goods, a quadruplicate statement of the said packages, which shall contain the following data: Name of the consignee, number of the manifest, name of steamer bringing the goods, date of the arrival of the steamer, mark, countermark, and number of each package, amount and class and sum total of the packages consigned. The four copies of the statement shall be presented to the carrier of the goods in order that he may express, under his signature, on each of the said copies, his consent to the transmittal of the packages to this city. Should the carrier refuse to give his consent, the custom-house shall inform the Department of the Treasury of the same, in order that it may direct what shall be done in the matter.

If the name of the chief of diplomatic mission is not on the manifest, because of the goods having been sent to an agent, and the latter should give the proper advice to the custom-house, the latter shall inform the Department of the Treasury, and shall act in accordance with instructions from the same.

IV. If the carrier of the goods consents to the reshipment of the goods to this city, and it shall be so expressed in the statement prepared by the treasury, the collector of the custom-house shall order, under his signature, on the four copies of the statement, the delivery of the packages, in order that they may be transmitted to the custom-house at Mexico, on account of the party in interest. Before the delivery of the packages to the railway, the proper officer shall see that they are wired and sealed, and shall note the proper "let it pass" on two of the copies of the statement, in order that one may be sent with the goods, the other immediately forwarded to the custom-house at Mexico, two copies to remain with the custom-house of entry, to serve as vouchers. The custom-house at Mexico shall acknowledge receipt of the packages, and shall not proceed to their dispatch until receipt of the advices indicated in the following sections.

V. Each consignment to the address of a chief of a diplomatic mission shall be reported directly to the Department of the Treasury by the party in interest. To this end, the Department will furnish each embassy or legation, at the request of the chief of the same, with printed forms, in series of twenty-five copies numbered consecutively, in order that in transmitting the said forms to the said Department the chiefs of missions may be pleased to give the following information: Name of the custom-house of entry and that of the vessel bringing the goods, or if the latter should be imported by way of the frontier, the name of the custom-house only, the number of packages, their marks, and, if possible, their weight, and, finally, a description of the goods contained in each package, employing in the same the nomenclature of the tariff of the general customs ordinance, or else the name by which the article is known in commerce.

VI. The Department of the Treasury, upon receipt of the advice mentioned in the foregoing section, will, at the foot of the same, authorize the exemption from duties, and, at the same time, will decide as to whether the goods shall be examined or not. The document so acted upon shall be forwarded to the general direction of customs, in order that it may be sent by that office to the custom-house at Mexico.

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VII. When the dispatch of the goods is asked for, the said custom-house shall require the presentation of the consular invoice and shall compare it with the statement transmitted by the custom-house of entry and with the advice required by Section V. Then, the contents of the packages shall be examined with discretion or simply be delivered to the transportation company, if the order should dispense with the requisite of examination. The examination of the packages shall be based upon the consular invoice, and shall be made only in the presence of the chief of mission interested, or in that of a person designated by him for the purpose; delivery of the goods shall be made only to the chief of mission or to his agent.

VIII. Foreign chiefs of mission may authorize anyone to attend, in the custom-house, to the transmittal, dispatch, and delivery of the packages consigned to them by means of a letter addressed to the collector of the custom-house, sealed with the seal of the embassy or legation.

IX. If the examination of the packages, in the case that the Department of the Treasury should have ordered the same, should disclose notable differences between the goods and their description, the custom-house shall deliver them and report to the department for its action.

X. The custom-house at Mexico shall, after the delivery of the goods, send to that of entry the consular invoice presented and a certified copy of the advice of the chief of mission, in order that the said documents may complete the record.

XI. When circumstances occur in the importation of goods consigned to chiefs of foreign missions which the collectors of the customs consider it proper to be made known to the Department of the Treasury, they shall do so, without delaying the transmittal or the delivery of the goods, directly and confidentially to the secretary of the same, in order that such measures as the case may require be taken.

Article 2.

Goods imported by express companies to the consignment of chiefs of foreign missions, whose official character has been made known to the customs officers, shall be admitted to the custom-houses of entry, provided that said goods shall be manifested in petitions which do not relate to any other consignment, and that the packages, wired and sealed, be transmitted to the custom-house at Mexico in order that it may make the delivery.

Article 3.

Postal packages addressed to chiefs of foreign missions, whose official character has been made known to the customs section of the post-office, shall not be examined, and no duty shall be collected on the same, provided that they be delivered to the consignee or to the person duly authorized in the terms indicated by Section VIII of these regulations. The customs section of the post-office shall inform the respective custom-house of each case of free delivery of postal packages.

Article 4.

Articles transmitted by a chief of a foreign state or by a government to its diplomatic agents, or to Mexican establishments or functionaries—such as coats of arms, flags, seals, and office supplies for foreign legations and consular officers—shall be admitted free of duty by the custom-houses without examination, provided that each package bear visibly the official seal of the person or department of state which makes the shipment, and that the consignment be accompanied by a list of the contents, also authenticated by the proper official seal. The custom-houses will not need any special order for the admission of such articles if the said conditions are complied with; but if the requisite of the list of contents be lacking, they shall consult the Department of the Treasury, by the quickest way, as to whether or not the said requisite shall be dispensed with.

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Article 5.

The dispatch of the baggage and articles of travel of personal use belonging to foreign chiefs of diplomatic missions, or to the persons mentioned in sections *a* and *b* of article 2 of the decree of this date, shall be made in accordance with the following prescriptions:

I. If the respective custom-house shall have received the notice mentioned in Section II of article 1 of these regulations, or in the case of a person not a chief of a foreign diplomatic mission, an express order from this Department, issued by indication of that of Foreign Affairs, it shall immediately deliver the baggage to the party in interest without examination.

II. If the custom-house should have no instructions in the matter, and the party in interest should make known his official character, it shall send the baggage to the custom-house at Mexico with the formalities prescribed by article 14 of the regulations of January 14, 1897, and shall inform the Department of the Treasury, by the most expeditious means, in order that it may give the proper orders to the said custom-house.

Article 6.

Household furniture which has been in use, belonging to chiefs of Mexican diplomatic missions who return to their country at the expiration of their appointments, may be imported free of duty, provided that the exemption be solicited by the party in interest within three months after the day on which his commission expired, and that the importation be made before the expiration of three months from the date of the order granting the exemption, with the understanding that the said furniture shall be accompanied by the proper consular invoice, with all the requisites called for by the general customs ordinance.

Article 7.

The Department of the Treasury shall keep an account of the importations made by each chief of a foreign diplomatic mission, in accordance with the advices made by the latter, and with the data furnished by the custom-house at Mexico, which, to the said end, shall make, in the months of July and December of each year, a report which shall show the name of each party in interest, the number of packages imported and the class of goods, according to the data furnished by the consular invoices the papers of the express companies and the notices relating to the postal packages furnished by the customs section of the post-office.

Article 8.

Articles imported into the Republic by the commissioned officers of foreign scientific bodies for use and consumption in their investigations and studies shall be exempt from duty, provided that they comply with the requisites expressed in continuation:

I. The scientific corporation or establishment interested shall address a petition to the Department of the Treasury setting forth the object of its mission, the names of the persons composing the same, the custom-house through which the latter will enter into the country, and a detailed list of the articles, provisions, and substances which it desires to import.

II. The Department of the Treasury shall designate which of said articles and what quantities of provisions and substances shall be exempt from duty, and shall notify the corporation or establishment in interest and the general customs direction, to the end that it may issue the proper orders to the custom-house designated in the petition.

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III. The articles shall be imported under consular invoice and their dispatch shall be made with the requisites prescribed by the general customs ordinance, the proper duties being charged on all articles imported besides those declared free by the Department of the Treasury.

IV. Vehicles, harness, and animals subject to the payment of duty shall not be included in the exemption; but such property may be admitted with temporary exemption for the period of one year, under the conditions prescribed by articles 452, 453, and 454 of the general customs ordinance.

LIMANTOUR.

MEXICO, *September 11, 1901.*

SECRETARY OF THE TREASURY TO THE SECRETARY OF FOREIGN AFFAIRS.

I have the honor to transmit one hundred copies of the decree of the 11th instant, and the same number of the regulations published on the same date, in order that, if you see fit, you may be pleased to direct that they be distributed among the chiefs of the diplomatic missions accredited to this Republic, for the reason that the decree and the regulations apply to the system adopted since the said date in regard to the importation and dispatch of foreign goods consigned to the said chiefs of missions, to whom I beg that you will say that the forms prescribed by Section V of article 1 of the said regulations are at their disposition in this Department.

As you will be pleased to observe, the regulations in question are based on the delivery of the goods by the custom-house of Mexico, and it has been endeavored to make it as simple as possible, in order to avoid unnecessary delays; but in order to obtain this object, and bearing in mind that the goods must be imported through some one of the marine or frontier custom-houses, and that some formalities, required by the principles upon which the Mexican customs laws are based, are necessary, it is very important, and for this reason I permit myself to call your attention to the subject, that, if you see fit, you may be pleased to inform the chiefs of foreign diplomatic missions that in the importation of goods for their own use, the following requisites are essential:

1. That the goods shall be marked to their address, and shall be consigned directly to them in the consular invoices and in the bills of lading; and,

2. That in each case of importation, they will be pleased to give the necessary instructions to their agents or factors at the port or on the frontier, in order that the firm or the person who may have brought the goods to the port or place of entry may express, in the proceedings had in the proper custom-house, his consent to the transmittal of the said goods to the custom-house at Mexico, for the reason that this is an indispensable requisite.

MEXICAN TARIFF CHANGES.

Consul Canada sends from Veracruz, November 9, 1901, translation (as printed in the Mexican Herald) of the new tariff schedule, which took effect November 1, 1901, as follows:

	Mexican silver.
SECTION 25. Wool in the fleece, uncleaned.....per gross kilogram...	*$0.06
SECTION 25*a*. Wool in the fleece, washed or cleansed from grease, per gross kilogram (2.2046 pounds).....	.10
SECTION 30. Goat and camel hair.....per gross kilogram...	.10

* Inasmuch as the value of the Mexican dollar fluctuates, the reductions to United States currency are not given. On October 1, 1901, the valuation by the United States Mint was 46.4 cents.

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	Mexican silver.
SECTION 32. Hair of the vicuña, rabbit, hare, muskrat, and the like, per legal kilogram	$1.75
SECTION 41. Sausages (Butifarras, chorizos, salchichones, and ham in joints, per legal kilogram	.15
SECTION 50. Fish oil put up in glass.....per legal kilogram...	.12
SECTION 50*a*. Fish oil put up in cans or wooden vessels...per gross kilogram...	.10
SECTION 64. Cod-liver oil, in glass bottles.....per legal kilogram...	.12
SECTION 64*a*. Cod-liver oil put up in cans or wooden vessels, per gross kilogram	.10
SECTION 66. Vaccine virus and serums for hypodermic injections	Free.
SECTION 72*a*. Leather belts, with buckles not of gold, silver, or platinum, or without buckles.....per legal kilogram...	1.50
SECTION 83. Slippers of various kinds (babuchas, chinelas, or pantuflas) of leather or other material not containing silk, having adornments or embroideries of silk or of metal other than gold, silver, or platinum, with sole not exceeding 12 centimeters.....per pair...	.25
SECTION 84. Slippers of various kinds, of leather or other material not containing silk, having adornments or embroideries of silk or of metal other than gold, silver, or platinum, with sole exceeding 12 and not exceeding 20 centimeters.....per pair...	.35
SECTION 85. Slippers of various kinds of leather or other material not containing silk, having adornments or embroideries of silk or of metal other than gold, silver, or platinum, with sole exceeding 20 centimeters, per pair	.50
SECTION 91. Ladies' shoes (botines) of leather or cloth of all sorts and materials, provided they do not contain a precious metal, with sole not exceeding 12 centimeters.....per pair...	.50
SECTION 92. Ladies' shoes of leather or cloth, of all sorts and materials, provided they do not contain a precious metal, with sole exceeding 12 and not exceeding 20 centimeters.....per pair...	.80
SECTION 93. Ladies' shoes of leather or cloth of all sorts and materials, provided they do not contain a precious metal, with sole exceeding 20 centimeters.....per pair...	1.25
SECTION 99. Shoes of leather or cloth, of all sorts and materials, provided they do not contain a precious metal, with sole not exceeding 12 centimeters.....per pair...	.50
SECTION 100. Shoes of leather or cloth of all sorts and materials, provided they do not contain a precious metal, with sole exceeding 12 and not exceeding 20 centimeters.....per pair...	.75
SECTION 101. Shoes of leather or cloth of all sorts and materials, provided they do not contain a precious metal, with sole exceeding 20 centimeters.....per pair...	1.00
SECTION 104. Fans of tortoise shell, mother-of-pearl or ivory, without fine metal ..... each...	2.50
SECTION 105. Fans of tortoise shell, mother-of-pearl or ivory, with adornments or attachments of gold, silver, or platinum.....each...	5.00
SECTION 128. Hemp, linen, ramie, and other vegetable fibers not specified, undressed or hackled.....per gross kilogram...	.02
SECTION 129. Stuffed olives in oil.....per legal kilogram...	.10
SECTION 135. Coffee in the berry.....per net kilogram...	.10
SECTION 138. Dried fruits, not specified.....per gross kilogram...	.09
SECTION 148*b*. Industrial fruits and grains, oleaginous seeds and fruits, not specified.....per gross kilogram...	.01

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	Mexican silver.
SECTION 151. Seeds for agricultural purposes when they can not possibly be used for anything but sowing	Free.
SECTION 151*a*. Seeds of all kinds for agriculture, when imported with the permission of the Department of Finance	Free.
SECTION 170*a*. Roasted coffee, whether ground or in the berry, per legal kilogram	$0. 15
SECTION 173*a*. Fæcula of potatoes.....per gross kilogram...	.03
SECTION 182. Cotton-seed oil, purified, in tank car or tank ship, per net kilogram	.10
SECTION 182*a*. Cotton-seed oil, purified, in vessels of wood, drums, or cans, per gross kilogram	.09
SECTION 182*b*. Cotton-seed oil, unpurified, in tank car or tank ship, per net kilogram	.05
SECTION 182*c*. Cotton-seed oil, unpurified, in wooden vessels, drums, or cans.....per 100 kilograms, gross...	4. 50
SECTION 183. Cocoanut oil and linseed oil, crude or boiled, in tank car or tank ship.....per net kilogram...	.10
SECTION 183*a*. Cocoanut oil and linseed oil, crude or boiled, in wooden vessels, drums, or cans.....per gross kilogram...	.09
SECTION 188. Vegetable tar .....do.....	.06
SECTION 205. Dyeing and tanning woods and barks, even though pulverized, per gross kilogram	.05
SECTION 218. Wooden tanks or receptacles, exceeding 2,500 liters (660 gallons) in capacity.....per gross kilogram...	.01
SECTION 218*a*. Wooden tanks or receptacles not specified, and all forms of wooden barrels not specified.....per gross kilogram...	.05
SECTION 236. Mats of grass, palm, or cocoanut.....per square meter...	.25
SECTION 260. Crucibles of platinum	Free.
SECTION 291. Tin bars and tin in bulk.....per gross kilogram...	.12
SECTION 294. Lead in bars or pigs.....do.....	.12
SECTION 297. Manufactures of lead, not specified.....per legal kilogram...	.08
SECTION 300. Lead in sheets and in tubes and pipes, and glaziers' lead, per gross kilogram	.05
SECTION 305. Steel in bars, round, square, diamond-shaped, semicircular, octagonal, or hexagonal.....per gross kilogram...	.05
SECTION 306. Steel in cylindrical bars or of octagonal or hexagonal section, or T-shaped for mines.....per gross kilogram..	.0
SECTION 313. Plows and their loose parts or repair pieces.....do.....	.01
SECTION 321. Axles and axle boxes of iron or steel for carts and carriages, per gross kilogram	.10
SECTION 321*a*. Ferromanganese containing 25 per cent or more of manganese, per gross kilogram	.05
SECTION 329. Steel springs for carts and carriages.....per gross kilogram...	.10
SECTION 331. Posts, crosspieces, and pegs of iron or steel for overhead electrical conductors	Free.
SECTION 332. Rails, fishplates and bolts, switches, ties, and frogs of iron or steel, for railways	Free.
SECTION 336. Manufactured articles of tin and of iron, tin plated or nickel plated, wholly or in part, not specified, whatever their weight, per legal kilogram	.20
SECTION 336*a*. Manufactured articles of iron or steel, enameled wholly or in part, not specified, whatever may be their weight.....per legal kilogram...	.25

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	Mexican silver.
SECTION 336*b*. Manufactured articles of steel or iron, not specified, per legal kilogram	$0. 15
SECTION 340. Nails, tacks, screws, bolts, nuts and nut caps of iron or steel, and iron or steel braces for construction purposes.....per legal kilogram...	. 10
SECTION 341. Tanks, cisterns, receptacles, or caldrons, of iron or steel, of more than 2,500 liters (660 gallons) of capacity.....per gross kilogram...	. 01
SECTION 342. Gauze of steel or iron wire, of all kinds.....do.....	. 10
SECTION 360. Carbonates of magnesia, baryta, or strontia, per gross kilogram	. 03
SECTION 364. Emery, pulverized or granulated.....per gross kilogram...	. 01
SECTION 365. Spars.....do.....	. 08
SECTION 368. Ocher.....do.....	. 07
SECTION 374. Black plumbago.....do.....	. 05
SECTION 396. Paraffin candles.....do.....	. 18
SECTION 415. Tiles, ridge tiles, and ventilators of earthenware for roofs and clay pipes for drainage purposes.....per thousand...	2. 50
SECTION 417. Insulators of glass or porcelain for electrical conductors.....	Free.
SECTION 448. Cotton thread on spools for sewing..per 1,000 meters in length...	. 04
SECTION 450. Cotton thread for crocheting, on spools.....do.....	. 08
SECTION 452. Cotton canvas.....per square meter...	. 17
SECTION 455. Handkerchiefs of cotton cloth, uncut and unhemmed, will pay the same duty as the material of which they are made.	
SECTION 456. Handkerchiefs of cotton cloth, cut or hemmed, will pay the duty assessable on the material of which they are formed, with 25 per cent extra.	
SECTION 465. Cotton fabrics of all kinds, with mixture of metal other than silver or gold, in streaks, in figures or designs, woven or embroidered, per legal kilogram	2. 00
SECTION 475. Thin percale, of any species of cotton tissue, for the use of bookbinders.....per square meter...	. 10
SECTION 481. Fringes, galloons, passementerie, edging, ribbons and webs, of cotton, when they have applications of glass, ordinary metal or paste; and cotton ribbons with clasps or eyelets of ordinary metal, per legal kilogram	1. 00
SECTION 483. Handkerchiefs of cotton, with garniture of cotton lace...each...	. 20
SECTION 499. Yarn of linen or hemp and that of other similar fibers not specified.....per legal kilogram...	. 10
SECTION 503. Linen canvas.....per square meter...	. 22
SECTION 506. Linen handkerchiefs, uncut and unhemmed, are subject to the same duty as the material of which they are composed.	
SECTION 507. Linen handkerchiefs, cut or hemmed, are subject to the same duty as the material of which they are made, with 25 per cent extra.	
SECTION 530. Fringes, galloons, passementerie, edging, ribbons and webs of linen, when they have applications of glass, ordinary metal or paste; and linen ribbons with clasps or eyelets of ordinary metal, per legal kilogram	1. 00
SECTION 532. Linen handkerchiefs, with garniture of linen or cotton lace, each	. 40
SECTION 556. Woolen goods of every texture, even when they are embroidered with wool, cotton, or linen, or have streaks of false metal; when the square meter has a weight not exceeding 100 grams.....per net kilogram...	2. 50

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	Mexican silver.
SECTION 557. Woolen goods of all textures, even when they are embroidered with wool, cotton, or linen, or have streaks of silk or false metal, when the square meter has a weight exceeding 100 and not exceeding 180 grams, per net kilogram	$2.00
SECTION 558. Woolen goods of all textures, even though they are embroidered with wool, cotton, or linen, or have streaks of silk or false metal, when the square meter has a weight exceeding 180 and not exceeding 450 grams.....per net kilogram...	3.25
SECTION 559. Woolen goods of all textures, even when they are embroidered with wool, cotton, or linen, or have streaks of silk or false metal, when the square meter weighs more than 450 grams.....per net kilogram...	2.00
SECTION 563. Carpets or rugs of curled wool on a foundation of hemp or any other material.....per square meter...	.90
SECTION 564. Carpets and rugs of wool pile, with foundation of hemp or any other material.....per square meter...	1.50
SECTION 565. Carpets of corded wool with foundation of hemp or any other material.....per square meter...	.90
SECTION 636. Covers and linings of silk, with mixture of cotton, linen, or wool, sewn or in cuts, for sunshades or umbrellas.....per net kilogram...	9.00
SECTION 638. Priestly ornaments of silk tissue, with mixture of cotton, linen, or wool, even though they may have embroideries or galloons of imitation metal or mixture of imitation metal in the tissue.....per legal kilogram...	7.00
SECTION 639. Priestly ornaments of silk tissue with mixtures of cotton, linen, or wool, when they have embroideries or galloons of silver or silver gilt or mixtures of silver or silver gilt in the tissue.....per legal kilogram...	12.50
SECTION 640. Priestly ornaments of silk even when they have embroideries or galloons of silver or silver gilt or mixtures of silver or silver gilt in the fabric.....per legal kilogram...	20.00
SECTION 659. Sizing for textile fabrics.....per gross kilogram...	.04
SECTION 664. Natural or artificial alizarin.....do.....	.07
SECTION 670. White and colored varnishes.....per legal kilogram...	.20
SECTION 676. Bicarbonate of potash and soda.....do.....	.08
SECTION 676*a*. Carbonate of potash and soda.....per gross kilogram...	.02
SECTION 679. Color ground or in crystals.....do.....	.07
SECTION 679*a*. Prepared colors.....do.....	.12
SECTION 683. Chloride or hypochlorite of lime, soda, or potash.....do.....	.01
SECTION 693. Extracts of dyewoods.....do.....	.07
SECTION 698. Medicinal soaps.....per legal kilogram...	.75
SECTION 703. Orchilla.....per gross kilogram...	.07
SECTION 714. Salts of strontia and baryta, not specified..per legal kilogram...	.08
SECTION 722. Alkaline sulphates.....per gross kilogram...	.05
SECTION 734. Beer, cider, and refreshing drinks in bottles..per net kilogram...	.20
SECTION 735. Beer and cider in barrels.....per gross kilogram...	.08
SECTION 743. Paper for printing, white or tinted, with or without satin finish, filter paper, or blotting paper.....per legal kilogram...	.07
SECTION 745. Writing paper, white or colored, with or without satin finish, per legal kilogram	.20
SECTION 746. Wrapping paper, not otherwise specified...per legal kilogram...	.06
SECTION 753. Painted or stamped paper.....do.....	.10
SECTION 760. Paper for cigarettes.....do.....	.20
SECTION 764. Pasteboard, tinted or white, with or without satin finish...do.....	.07

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		Mexican silver.
SECTION 764*a*. Pasteboard, natural color, untinted and unbleached, weighing less than 235 grams per square meter	per legal kilogram...	$0.06
SECTION 764*b*. Pasteboard, natural color, untinted or unbleached, weighing more than 235 grams per square meter	per legal kilogram...	.05
SECTION 787. Pumps, suction and force, and extra parts of same, per gross kilogram		.01
SECTION 788. Globes for incandescent lamps	per gross kilogram...	.15
SECTION 796. Lamps for electric-arc light		Free.
SECTION 817. Wheelbarrows and carts	per gross kilogram...	.01
SECTION 818. Railway cars and coaches of all kinds, and extra parts of same		Free.
SECTION 835. Gears for carriages, stagecoaches, omnibus, and spring wagons, painted or unpainted	per legal kilogram...	.60
SECTION 842. Canes, with weapons attached, not adorned with gold, silver, or platinum	per legal kilogram...	2.00
SECTION 854. Lubricating oils	per gross kilogram...	.05
SECTION 863. Canes, not otherwise specified, not adorned with gold, silver, or platinum	per legal kilogram...	1.25
SECTION 887. Asbestus packing for machinery	per gross kilogram...	.04
SECTION 898. Scented soap	per legal kilogram...	.75
SECTION 915. Hats for women, straw or cotton or paper, unfinished or with trimmings not of feathers or material containing silk	each...	.20

FRUITS AND VEGETABLES OF ST. CHRISTOPHER.

FRUITS.

It may be of interest to American dealers in confections to know that West Indian fruits are now prepared here for home consumption in a candied form.

The tropical fruits, such as the mango, guava, sapodillo, lime, breadfruit, belle apple, banana, granadillo, pineapple, etc., are cut in cubes about the size of loaf-sugar cubes, and, after being allowed to stand for several days in sea water, are candied, the result being a delicious conserve, which will keep for any length of time.

Since fruits of some kind are on the trees the entire year, since sugar growing is the chief industry, since the cost of labor is nominal, and since three lines of steamers place this island in regular communication with England, Canada, and the United States, it would seem that the perishable tropical fruits produced here might be placed upon the markets of the world preserved and candied, with profitable results. There is an occasional small shipment of preserved tamarinds and guava jelly or marmalade, but what this island lacks is capital and enterprise.

A species of sour orange grows wild, the peel of which, when dried, finds a ready market in London, but no attempt is made to utilize the fruit itself, which is thrown away. The peculiar acid juice of this orange should be of some value.

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Limes are plentiful in this and neighboring islands, yet I know of but one party preparing lime juice for the market, and his trade is limited mostly to the supply of ships coming into this port.

The variety of tropical fruits found in these islands is surprising; they are inferior, however, in flavor and delicacy to American fruits. Besides, there is a great deal of extraneous matter—seeds, pulp, and cortical substances—for the amount of real fruit obtained. The only berry known in St. Christopher is the so-called strawberry, which is in reality a species of raspberry growing wild in the mountains. The soil and climate would seem, however, to be favorable to the growth of other berries. The perishable nature of these tropical fruits have precluded their exportation, but there is now some talk of equipping steamers with cold-storage compartments for that purpose.

VEGETABLES.

Many garden vegetables unknown in the United States are found here. Those which are similar to American vegetables are much smaller than the latter. The native cabbage is considered large if it be the size of a cocoanut. Potatoes and tomatoes are seldom found larger than small eggs. American sweet corn is unknown here, but should do well; in fact, all fruits and vegetables requiring little attention seem to flourish.

SOIL AND CLIMATE.

The soil of St. Christopher is wonderfully productive, as may be judged from the statements of two botanists sent out by the department of agriculture of New York, who have just completed their research, claiming to have discovered seventy new varieties of flora on one mountain alone.

The water supply would be sufficient for considerable irrigation. During the rainy seasons, short, sharp showers occur usually several times a day. The average temperature is from 78° to 82° F.

These islands must develop some new enterprises very soon, to take the place of the declining muscovado-sugar industry.

JOSEPH HAVEN,
Commercial Agent.

ST. CHRISTOPHER, *November 1, 1901.*

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NOTES.

Sulphate of Copper for Greece.—Consul Jackson writes from Patras, December 10, 1901, confirming his telegram of the 9th instant* announcing the decision of the Currant Bank of Greece to import 500 tons of copper sulphate for the use of the currant industry in the season of 1902. Sealed bids will be received for this amount, and, other things being equal, the order will be placed with the lowest bidder. The sulphate will be entered free of duty and the contract will be let probably about the last of February, 1902. The consul says:

The order is not a large one, compared with the amount used by the bank in the previous season, but I am told a fair supply is still on hand, and at least 150 tons additional will be supplied by the Greek Powder Manufacturing Company. About 5,000 or 6,000 tons of the copper sulphate were shipped into the country last year, and of this quantity only 200 tons entered this port by direct shipment from America, which means scarcely 4 per cent of the quantity consumed. So far as I have been able to learn, this experimental shipment was successful in price as well as in quality, and it seems reasonable to suppose that a greater business should follow through an opening so favorable. We ought to supply at least 50 per cent of the sulphate used in this country. One of the advantages which European countries have in this, as in other lines of trade, is an advance knowledge of the probable needs from their agents, and I am endeavoring to obviate this difficulty as much as possible by thus early bringing the matter forward.

American Apples in Austria.—In answer to inquiries from a Chicago firm,† Consul-General Hurst writes from Vienna, November 8, 1901:

There is an excellent prospect for selling American apples in Austria. In general, yellow and light-colored apples are considered the choicest here, although any apples of good size and flavor find a ready market. It is only when the Austrian, or, more particularly, the Tyrolese crop fails that apples are imported. The harvest from Tyrol is not up to the average this year, and apples have been imported from Hungary and elsewhere. There is no use for small

*Advance Sheets No. 1214 (December 4, 1901).
†To which copy of this report has been sent.

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apples, since, even if the Austrian apple crop proves poor, there is always plenty of this sort harvested in neighboring countries. The usual wholesale price here for good apples is 36 crowns ($7.31 in gold) for 220 pounds. A large barrel of apples here weighs from 154 to 157 pounds; the apples themselves, from 132 to 135 pounds.

There is no duty on apples. The best way to pack them is to place paper and excelsior between layers of apples, in order that they may not be bruised. Special care should be taken that the apples are not infested with San José scale, because, on arrival in port, several apples from each barrel are microscopically examined by experts, and if one of the insects is discovered the entire shipment is debarred entrance. Apples should be sent via Trieste, as the freight from there is somewhat less per car than from Hamburg. The middlemen in Hamburg, it is said, charge very high prices, compared with those they pay the American seller.

Russian Mercantile Marine.—Consul-General Holloway writes from St. Petersburg, December 10, 1901:

The report of the Minister of Marine, just published, states the Russian mercantile marine consisted on January 1, 1901, of 745 steamers and 2,293 sailing vessels. Last year, 38 steamers of 35,193 registered tons were added to the mercantile fleets of the Baltic and Black seas, while the increase in the Caspian and White seas was but trifling. Of the total steam tonnage, 59 per cent is owned by companies and 21.9 per cent by private individuals. The largest steamship firms are those working on the Black Sea. The Russian Steam Navigation and Trading Company, of Odessa, possesses a fleet of 72 steamers, representing a total of 67,654 registered tons; the Russian East Asiatic Company has 3 steamers, aggregating 12,618 tons; the Russian Baltic Company, 5 steamers of 7,896 tons; the Archangel-Murman Company, 13 steamers of 6,233 tons; the Orient Transport Company, 25 steamers of 13,702 tons; and the Caucas and Mercure Company, on the Caspian Sea, 20 steamers, representing 11,934 tons. These are the chief Russian maritime companies, exclusive of the volunteer fleet of 14 steamers of 45,209 tons.

American Schoolbooks for West Africa.—Writing from Sierra Leone, under date of November 26, 1901, Consul Williams says:

The superintendent of Mohammedan education for British West Africa—whose work extends from the hinterlands of Sierra Leone to the Niger—visited this consulate recently and requested that I

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procure from American publishers catalogues and specimen pages of common-school text-books in the English language for his examination, with a view to their introduction and use in the schools under his supervision, if satisfactory. Much interest is being manifested by the colonial government at present in Moslem education. This being, perhaps, the first opportunity for the introduction of American text-books into this country, it is very important that those concerned respond promptly. Literature may be sent to this consulate.

Shipping in Liberia.—Consul-General Smith sends from Monrovia, November 19, 1901, a clipping from the Liberia Recorder of November 14, 1901, affording data as to steamer arrivals, as follows:

It may be quite interesting to the public to be informed of the number of steamers that have called at this port within the last month, and in view of this we publish the following, giving the names and total number:

Steamship.	Nationality.	From—	Date of arrival.
Axim	English	Windward	14th ultimo.
Irma	German	Leeward	Do.
Jebba	English	Windward	15th ultimo.
Anna	German	do	16th ultimo.
Albertville	Belgian	Leeward	18th ultimo.
Olenda	English	do	Do.
Marie	German	do	20th ultimo.
Madeira	Hamburg Line	do	Do.
Lagos	English	Windward	23d ultimo.
Ernst	German	Leeward	24th ultimo.
Ellar	do	do	25th ultimo.
Batanga	English	Windward	Do.
Aline	German	do	27th ultimo.
Boma	English	do	Do.
Sekendi	do	do	29th ultimo.
Akassa	Hamburg Line	Leeward	31st ultimo.
Paul	German	Windward	Do.
Mandingo	Hamburg Line	do	Do.
San Francisco	Spanish	Leeward	5th instant.
Dahomey	English	do	7th instant.
Oron	do	Windward	8th instant.
Lulu	German	Leeward	9th instant.
Nigeria	English	do	Do.
Hans	German	Windward	Do.
Alexandria	do	Leeward	11th instant.
Carl	do	Windward	12th instant.
Bornu	English	do	Do.
Bakana	do	do	13th instant.
Edward	German	Leeward	14th instant.
Benguela	English	do	Do.
Teneriffe	do	Windward	Do.

Making a total number of 31 steamers arrived here from the 14th ultimo to the 14th instant, inclusive. This shows a great increase and improvement in the commercial line, and also an increase in the work of the postal and custom staff.

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Tariff Changes in Mozambique.—Consul Hollis, of Lourenço Marquez, November 4, 1901, reports that by royal decree from Lisbon, just published, the following changes have been made in the customs tariff of the province:

(1) Peanuts, sesame, and other oil seeds are to be subject to an export duty of 4 per cent ad valorem when exported to non-Portuguese countries, and of 2 per cent when exported to Portuguese countries.

(2) Vessels of all tonnages, whether propelled by steam or sail, with their rigging and fittings, may now be imported, free of duty, at any port in the province of Mozambique.

World's Shipbuilding for 1900.—Consul Monaghan writes from Chemnitz, November 27, 1901:

The total number of vessels of over 100 registered tons built during 1900 is given in German returns as 319 sailing vessels and 966 steamships, with a total tonnage of 2,268,938 tons. Of this number, 20 sailing vessels and 70 steamships, with a tonnage of 211,850 tons, were built by Germany.

The following table gives the relative position of the shipbuilding countries for 1900:

Country.	Ships.	Registered tons.
England (inclusive of colonies)	698	1,471,475
America	197	297,931
Germany	90	211,850
France	65	101,318
Italy	37	54,382

According to these figures, 10 per cent of the whole falls to Germany.

New Method of Hardening Steel in Germany.—Vice-Consul-General Murphy sends from Frankfort, November 23, 1901, translation from the Frankfurter Journal, as follows:

The Technical High School in Charlottenburg has just completed a series of experiments with a new method for preparing steel, and the result will no doubt attract much attention in interested circles. Experts claim that this new invention may revolutionize the entire metal industry. The inventor, named Giebeler, is a small manufacturer in Mecklenburg, who has for years been interested in this new process, but was unwilling to bring it before the public until it had been thoroughly tested by experts. The results reached at the Technical High School were most satisfactory. By the Giebeler process, all sorts of iron can be given strength and hardness double that obtained by the Harvey, Krupp, and Boehler processes, in spite of the fact that the cost of production is reduced 50 per cent.

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Projectiles fired against a 7¾-millimeter (0.305 inch) sheet of steel produced by the Giebeler process penetrated only to the depth of 1 millimeter (0.039 inch), while a similar sheet of Krupp steel was completely penetrated. With sword blades of this material, other sword blades can be shivered as if they were made of wood. A representative of Mr. Giebeler will start next week for Pittsburg, to bring the invention to the attention of the great steel kings of America.

Walnut Prices in Marseilles.—Consul-General Skinner reports from Marseilles, December 4, 1901:

It may be interesting to the American walnut trade to know that in the latter part of November, shipments of commercial mayettes were invoiced from this office at 47.62 francs per 100 kilograms ($9.18 per 220 pounds). The last previous quotation which I sent to the United States on this class of nuts was 56 francs ($10.80) per 100 kilograms. The exports invoiced at Marseilles show a very considerable falling off, for the reason, I am told, that American buyers are more and more disposed to go into the walnut-growing country themselves and buy from producers, rather than through Marseilles commission houses.

Destruction of Fungoid Growths in Germany.—Consul-General Hughes, of Coburg, reports, December 13, 1901, as follows:

Messrs. Rosenzweig & Baumann, of Cassel, manufacture at their color works a simple and effective agent for the destruction of fungoid growths, which they have put on the market under the name of "mikrosol." Professor Migula, of the same city, has made a thorough examination into the action and effect of mikrosol, and recommends it as very efficient, both for the destruction and prevention of fungoid growths. Mikrosol is easily soluble in water. A 2 per cent solution applied to wood by means of a brush will bring about the desired effect almost immediately. Mikrosol ought to be very useful on shipboard, especially in tropical and semi-tropical countries.

Open-Air Treatment of Consumption in Germany.—Consul-General Mason sends from Berlin, November 18, 1901, translation of a report by the imperial health office on the successful results of the open-air treatment of consumption in Germany. This report was requested for the benefit of the Marine-Hospital Service, and a copy has been sent to the Surgeon-General. Mr. Mason notes that the success of this treatment has caused the erection of a large number

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of establishments in Germany—60, with 5,000 beds, in the spring of 1901. In almost half the cases, the patients had been sick for less than a year before applying for admission to the institutions. The average duration of treatment was 92.4 days for each patient. Data as to the final results show that of each 100 patients treated 87.7 per cent were discharged as cured or improved, 8.8 per cent left unimproved, 3.1 per cent were worse, and one-half of 1 per cent died. The favorable results were in part due to a careful selection of cases suitable for treatment in the institutions.

The full text of the report appears in the Public Health Reports of December 6, 1901, issued by the Marine-Hospital Service, page 2873.

The New Canal at Königsberg.—The Department has received from Consul Kehl, of Stettin, and Consul Monaghan, of Chemnitz, under date of November 19 and 16, respectively, a description of the new Königsberg Canal, begun in 1890 and now thrown open to traffic. Up to this time, it is said, large ocean vessels had to be lightened in Pillau, as they were unable to pass the Frische-Haff. Another advantage of the new canal is that it will be easier to keep the channel free of ice. The canal is 22 feet deep, and the length from Pillau to the mouth of the River Pregel (the entrance to Königsberg) is 18 miles. The course of the Pregel has also been straightened for a distance of 8 miles. The canal has a bed width of 98 feet; the cost has been $3,500,000. Large steamers are enabled to travel in both directions, as there are five turn-outs.

Expositions at Frankfort.—Vice-Consul-General Murphy writes from Frankfort, November 19, 1901:

The Frankfort newspapers report that during the spring of 1902, three expositions will be held in this city:

(1) An international exhibition of St. Bernard dogs of pure breed will be of considerable interest, as numerous breeders and owners of such animals in Germany, France, Belgium, Austria-Hungary, Switzerland, etc., have already signified their intention of participating.

(2) The union of German dealers in shoes intends to hold here a large exposition for this branch of trade, covering products of the leather industry and modern machinery.

(3) A poultry exhibition is also expected to be of considerable interest. This exhibition is being arranged by the "Ornis" Society, of Frankfort.

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Exposition at Lille, France.—Consul Atwell writes from Roubaix, December 4, 1901:

An international exposition will be held in Lille between the months of May and September, 1902. It will embrace the following classes: Instruction, works of art, liberal arts, general machinery, electricity, civil engineering, transportation, wheels, automobiles, sports, agriculture, horticulture, forestry, hunting, fishing, food stuffs, mines and metallurgy, decoration, household furniture and accessories, yarns, dress goods, clothing, varied industries, chemicals, sound economy, hygiene, colonization, material and export products, special application of alcohol as a motive force and for lighting and heating. The office of the exposition is No. 35 rue National, Lille.

Jewelry Exposition at St. Petersburg.—Consul-General Holloway reports from St. Petersburg, November 19, 1901:

An international exposition of jewelry and art work of gold and silver will be opened in this city in the apartments of the Imperial Society for Encouraging Arts, on December 20, and will continue two months. The principal exhibitor is France; next come Austria-Hungary, Italy, Switzerland, and Japan. The Russian jewelers refused to take part in the exposition, as well as the English and German, the latter upon the ground that a similar national exposition will be held at Düsseldorf in March, 1902.

Substituting Russian for American Petroleum.—Consul-General Guenther reports from Frankfort, December 4, 1901:

The Frankfurter Intelligenz-Blatt of this morning states that the railroad management at Cassel calls attention to the order that American petroleum is to be used only for office lamps and signal lanterns, and then only if Russian petroleum does not produce a sufficient light. The Minister of Public Works has of late repeatedly ordered that only Russian petroleum be used; stating that, as in fifteen railroad districts it has been employed with uniformly good results, it must be taken for granted that at offices from which complaints have been received, the lamps have not been properly cleaned.

Sugar in Austria-Hungary in 1901.—Consul Hossfeld reports from Trieste, November 7, 1901:

Official estimates based upon reports received from all the sugar factories in Austria-Hungary place the Monarchy's production of

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sugar for the current season at 1,224,800 tons, against 1,083,300 tons for that ended June 1, 1901. The total sugar-beet crop of Austria-Hungary is estimated at 85,000,000 quintals (8,500,000 metric tons), against 74,000,000 quintals in 1900. Nearly half of this quantity—viz, 4,000,000 tons—was produced in Bohemia. The constant expansion of the sugar industry in Europe and the gradual loss of some of its important eastern markets are almost certain to bring about a serious crisis at a not very distant period.

Samples of Eastern Goods for Germany.—Under date of December 9, 1901, Consul-General Guenther, of Frankfort, says:

German papers report that the committee of German trade experts sent to eastern Asia has concluded its work. The samples of goods brought from China and Japan have been distributed among different corporations. The textile samples have been given to the chamber of commerce at Crefeld and the samples of leather and leather goods to the German experimental station for leather industry at Freiburg, Saxony.

German Beet-Leaf Drying Plant.—Under date of December 9, 1901, Consul Baehr, of Magdeburg, writes:

A plant for drying the leaves of the sugar beet has been erected near Göttingen. The factory began to be worked at the opening of the beet season and is proving very satisfactory. The fodder obtained is excellent, contains much nutritive property, is very dry, and is eaten readily by cattle. It has also a pleasant smell, similar to that of fresh sweetbread. The Government and agricultural authorities are taking much interest in this invention, which will notably increase the profits of the beet industry.

German Colonies in Santa Catharina, Brazil.—Vice-Consul-General Murphy sends from Frankfort, November 15, 1901, translation from the Frankfurter Journal, of even date, as follows:

"HANSA" IN BRAZIL.

The Hanseatic Colonization Society, Limited, has recently given the collective name "Hansa" to all of its settlements in the State of Santa Catharina, Brazil. The settlement in Blumenau began in 1900, but the first large shipment of emigrants from Germany was not effected until May 2, 1901. Among the Germans who have settled at Hammonia, the most prominent is Dr. Aldinger, formerly superintendent of the German Colonial School at Witzenhausen.

Communications received from this colony show that the colonists are contented

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in their new home. For instance, a Transvaal Boer, who was sent out at the expense of the Pan-German Union (Alldeutschen Verband), writes:

"I beg to inform you that I have safely arrived in Brazil, and in the State of Santa Catharina, Colony Hammonia. I like it very much here, for the climate and country remind me of my old home. The land appears to be very good—better than in Africa—and the climate is somewhat cooler. Nevertheless, bananas, oranges, pineapples, melons, sweet potatoes, maize, grapes, and most of our African plants grow very well, and the coffee tree flourishes. There appear to be no cases of disease, and the colonists know hardly anything of a physician. I have already secured a piece of land and am now building a house upon it, as I have no intention of ever leaving this place."

Wool Exports from Montevideo.—Consul Swalm reports from Montevideo, November 11, 1901:

The wool exports of Montevideo for the year ended October 31, 1901, were as follows, in bales of 500 kilograms (1,102 pounds) each:

To—	1899–1900.	1900–1901.
Antwerp	18,819	16,880
Dunkirk	16,194	31,828
Havre	319	498
Bremen	2,558	7,207
Hamburg	6,552	17,415
Genoa	983	720
New York	436	756
Liverpool	5,576	7,187
Total	51,437	84,491

The shearing has just commenced for this year's clip, and the general outlook is promising. It is estimated that there will be an exportable balance of 100,000 bales.

Nickel Currency in Uruguay.—Under date of November 11, 1901, Consul Swalm reports from Montevideo:

The Government of the Republic of Uruguay will change, on December 1, all of its copper 1, 2, and 4 cent coins, substituting therefor nickel coins, which have been made in Germany. The face value of these coins will be $500,000, exceeding by about $200,000 the present copper coinage. There is a minor paper currency—redeemable in silver—of $2,369,000, consisting of 50-cent, $1, and $5 notes, and also a subsidiary issue of 10-cent, 20-cent, 50-cent, and $1 silver pieces, much of which is held as a redemption fund for the paper currency. The $10 notes and those above are gold notes and are always at par. The Bank of the Republic, in connection with a branch of the treasury, controls the monetary problem.

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Hints for Export to Chile.—Vice-Consul-General Murphy sends from Frankfort, December 3, 1901, the following translation from the Berlin South American Outlook, December 1, 1901:

Exporters of wares to Chile should pay very close attention to the customs requirements of that country. These regulations require that every package of wares imported into Chile shall have clearly marked thereon its weight (a statement in writing is not sufficient), and the weight thus given must under no circumstances be more than 10 per cent less than that ascertained by weighing at the time of entry. If the weight is found to have been correctly given, the wares are passed through the custom-house with great promptness—otherwise there is apt to be much delay and inconvenience. If the weight is found to have been incorrectly stated, or if the contents of the package differ from the statements made in the customs declaration, the wares are subject to confiscation. The importer's declaration is based upon the invoice and the bill of lading. If the statements in these papers are incorrect, the customs declaration must also be incorrect; consequently, exporters can not be too careful in preparing such documents.

New Gold Fields in French Guiana.—Consul Moulton, of Demerara, reports, December 18, 1901, that he has been advised by the consular agent at Cayenne that the rich placer gold diggings in the Inini River district of French Guiana are attracting many prospectors to that locality. During October and November last, over 2,000 pounds of gold were brought down to Cayenne, and, according to the agent, other large lots will soon follow. The consul adds that, in view of the great number of foreigners who may be attracted to the colony, the government has passed an ordinance requiring passports from such persons before they are permitted to land.

Platinum in British Columbia.—Consul Dudley sends the following from Vancouver, December 7, 1901:

The superintendent of the assay office here has reported to the press that among the specimens of gold brought to him to be refined, he has found considerable quantities of platinum, and he is under the impression that the miners do not know platinum when they see it. In all the placer-mining districts of British Columbia and the Yukon Territory, large amounts of platinum and kindred metals have been thrown away by miners who did not know the value of the product. With the present price of platinum, it will pay prospectors to be on the lookout for this metal, which doubtless exists in considerable quantities in this Province. Platinum is not found in ledges, so far as is known, excepting in one place in the world. It is found in black sand containing a large percentage of magnetic-iron ore and a varying quantity of gold.

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New Cable between Ireland and the Azores.—Consul Thackara reports from Havre, December 5, 1901, that the Commercial Cable Company, of New York, has laid a new submarine cable between Horta, Island of Fayal, Azores, and Waterville, Ireland. The shore connections at the latter place were successfully made on November 30. This cable, says the consul, is an extension of that laid by the same company in 1900, and increases to four the number of cables operated by the Commercial Company between Canso and Waterville. As Havre is connected by a submarine cable with Waterville, the direct-telegraph service with New York will be benefited by the new cable.

Telegraph Code for East and South Africa.—The Department has received a telegram from the manager of the Western Union Telegraph Company, at Washington, to the effect that the "unicode" has been deposited by the British Government at Aden and Cape Town and may be used in addition to the codes already notified for messages to and from Cape Colony, Natal, Rhodesia, Seychelles, Mauritius, Madagascar, British and German East Africa, Mozambique, and Lourenço Marquez.

Cable from Natal to Australia.—Consul-General Bray reports from Melbourne, November 10, 1901, that the Eastern Extension Australasia and China Telegraph Company, Limited, has notified the government of the State of Victoria that the Cape cable from Durban (Natal) to Freemantle, Western Australia, is now ready for use, and congratulatory messages have been exchanged with the governments of Cape Colony, Natal, and Mauritius. The section of the cable between Freemantle and Adelaide, South Australia, is now in course of construction.

Trade Conditions in Ecuador.—Consul-General De Leon, of Guayaquil, under date of November 19, 1901, reports the failure of the large exporting firm of Martin Reinberg & Co. The run on the bank of which Mr. Reinberg was one of the managers, adds Mr. De Leon, has been followed by the failure of the Paris branch of Seminario Brothers, a family hitherto regarded as the wealthiest in Ecuador. The situation demands extreme caution on the part of United States merchants in extending credits.

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Coffee Crop in Guatemala.—Consul-General McNally reports from Guatemala, December 11, 1901, that the coffee crop in Guatemala for this season will fall about 40 per cent short of that of last year. It is estimated that the yield will amount to 480,000 quintals (48,000,000 pounds).

Artistic Photography at the Turin Exposition.—The Department has received a note from the Italian embassy, dated Washington, October 30, 1901, asking that announcement be made that the Exposition of Decorative Art at Turin* will comprise a section of artistic photography. Full particulars may be had from the committee of the exposition, established for the United States at the consulate-general of Italy, 35 Broadway, New York.

New Ore Separator in Sweden.—Consul Bergh reports from Gothenburg, November 13, 1901:

The Morning Post, of this city, says that Knut Ericson, an engineer, has invented an apparatus for the separation of ore by the magnetic method, and last September exhibited it before Swedish and foreign experts. The apparatus, which is very simple in construction, yet ingenious, attracted wide attention. A Swedish company is being organized to work the invention. It is believed that it will be of the greatest importance for mining.

Proposed New Dry Dock at Gothenburg.—Under date of November 13, 1901, Consul Bergh, of Gothenburg, writes:

The "Göteborgs Mekaniska Werkstads Aktiebolag," of this city, intends to build a dry dock for vessels 490 feet long and of 25 feet draft, or from 6,000 to 8,000 tons displacement, and has applied to the Government for subsidies. If this dock is built, it may to an extent promote the establishment of direct trans-Atlantic steamship communication. The present dry dock is not large enough for ocean steamers of largest size.

German Insurance Law.—Ambassador White writes from Berlin, November 30, 1901, that in the official Reichsgesetzblatt, appearing on the previous day, an imperial decree was published ordering that the law concerning private insurance companies† shall go into effect January 1, 1902.

*ADVANCE SHEETS No. 1050 (May 31, 1901) and No. 1092 (July 20, 1901); CONSULAR REPORTS Nos. 251 and 252.

†ADVANCE SHEETS No. 1164 (October 17, 1901); CONSULAR REPORTS No. 255.

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German Meat Inspection.—Ambassador White telegraphs from Berlin, December 23, 1901, that a committee of the Bundesrath has begun to consider a list of localities for the examination and admission of meat, according to section 13 of the new meat-inspection law. It is probable that this part of the law will not go in force for some time, though as yet no specific information is obtainable.

German Demand for Names of Fruit Dealers.—The Bureau of Foreign Commerce has received a letter from Basilius A. Zissis, Bohnenstrasse 23, Hamburg, dated December 13, 1901, asking for the addresses of "respectable and active agents and brokers for the sale of currants and other dry fruits."

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) have been transmitted since the date of the last report to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
Geo. H. Murphy, Frankfort..	Nov. 30, 1901	German census.....	Census Bureau.
Do	Dec. 30, 1901	Lack of employment in Germany.	Department of Labor.
T. J. Albert, Brunswick.....	Dec. 20, 1901	German census.....	Census Bureau.
Do	.....do	World's sugar market.....	Department of Agriculture.
F. Dillingham, Auckland.....	Dec. 14, 1901	New Zealand census.....	Census Bureau.
R. Guenther, Frankfort.....	Dec. 24, 1901	German census.....	Do.
Do	Dec. 12, 1901	Beet-root culture.....	Department of Agriculture.
Do	Dec. 14, 1901	Chinese immigration.....	Bureau of Immigration.
J. J. Langer, Solingen.....	Nov. 23, 1901	Sowing of grain in Prussia.	Department of Agriculture.
Do	Dec. 13, 1901	Lockout at Solingen.....	Department of Labor.
E. Schneegans, Saigon.....	Oct. 24, 1901	Rice-market report.....	Department of Agriculture.
Do	Nov. 11, 1901	.....do	Do.
Do	Nov. 21, 1901	.....do	Do.
W. B. Bradley, Tunstall.....	Dec. 10, 1901	Lead poisoning in pottery works.	Department of Labor.
H. W. Harris, Mannheim.....	Dec. 7, 1901	Vital statistics of Baden...	Bureau of Education.
Do	Dec. 20, 1901	Hog supply of Germany...	Department of Agriculture.
H. Bordewich, Christiania.....	Dec. 9, 1901	Norwegian quarantine against Liverpool.	Marine-Hospital Service.
J. I. McCallum, St. Gall.....	Dec. 19, 1901	Oxylithe.....	Navy Department.
O. J. D. Hughes, Coburg.....	Dec. 13, 1901	Scarcity of pigs in Germany.	Department of Agriculture.
Do	Dec. 27, 1901	.....do	Do.
Do	Jan. 8, 1902	.....do	Do.
Do	Dec. 20, 1901	Danish cattle breeding.....	Do.
H. W. Metcalf, Newcastle-on-Tyne.	Dec. 31, 1901	Trade and finance.....	Treasury Department.
A. W. Swalm, Montevideo...	Nov. 26, 1901	Illiteracy in Uruguay.....	Bureau of Education.
W. A. Rublee, Hongkong.....	Dec. 13, 1901	Census of Hongkong.....	Census Bureau.

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FOREIGN REPORTS AND PUBLICATIONS.

Products of Central Anam.—The following extracts are taken from a recent edition of the Bulletin de Géographie Commerciale, of Paris:

Central Anam enjoys a moderate temperature, the heat of the dry summer being rendered endurable by the sea breeze. The principal native cultivations are rice, sugar cane, manioc, earthnuts, maize, and tobacco. According to the ground, from one to three harvests of rice a year can be obtained. The sugar cane of Anam is highly prized, great quantities of the raw sugar being shipped to Marseilles. Maize is also exported in large quantities, and is appreciated on account of its small, hard kernel. The cultivation of the earthnut is remunerative; the oil is used for lighting, for lubricating, and for food by the natives. Tobacco grows well, although it is cultivated only for native use. It is almost certain that if it were treated by European processes it could compete with other oriental tobaccos. There are already manufactories installed in Cambodia and in Anam.

Rubber and gutta-percha exist in considerable quantities; they come from wild bindweeds, and the natives extract the gum without any method or care. Samples have been sent to France, and the quality is pronounced to be good. Coffee succeeds very well, and large plantations have been made; but the most important cultivation in the future will be that of tea. This shrub was brought from China by missionaries more than a hundred years ago, and is now completely acclimated in Anam. The souchong of Anam is highly appreciated, and the net price is relatively low. Contractors engage the harvest in advance at a fixed price.

The mountainous part of Anam is relatively rich in gold quartz and coal. A society for mining coal exists at Nong-Son. Although this mine is some distance from the port of Tourane, the transportation by river is cheap. A gold mine is also being worked at Bang-Mui, 43 miles from Tourane; the average yield is one-third to two-fifths of an ounce per ton. The country produces benzine, cardamom, cotton, and bamboo. A trade in skins, horns, and elephant tusks is also carried on. Albumen is made from the eggs of hens and ducks and is sent to France for use in the manufacture of skins. Manual labor is very cheap—especially agricultural—and there are numerous unexplored valleys where concessions of land can be easily obtained. A colonist should commence with the native plants, which give a sure revenue on account of their certain yield. Once the plantation is organized (which takes a year at least), he may occupy himself with foreign cultures. In any case a capital of $10,000 is necessary for successful operations.

An article in Trade and Shipping in Southeast Asia (London) says:

Various kinds of dye plants are grown in Anam; mention is first made of the cunao, or "false gambier." This tubercle, found throughout the forests of Anam, furnishes, after maceration in water, a yellowish dye, somewhat approaching chestnut in color, used to color the cotton stuffs of which the ordinary clothing of the people is composed. The value of the cunao is from $2.92 to $3.89 per thousand head. It is produced in sufficient quantities for home consumption, with a small balance for export. In 1896, the export of cunao was valued at $13,821. Sapan is very common; the infusion of the bark gives an excellent color. There are

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two varieties of the indigo tree which give a fine and lasting dye. The mountainous districts of the north of Anam produce a sufficient quantity of lac for a considerable trade in this article. There remain to be mentioned Indian saffron, gardenia, and the dang-dang, which all yield a yellow color; the *Quercus ilex*, of which the macerated leaves furnish a black dye; the pastel employed for dying blue; the cây dun and the tufa essence, which yield a red dye; and finally the kien kien, which is very abundant in Hué, and the bark of which gives by infusion a red color, which is held in high esteem throughout the district. These plants have not hitherto contributed much toward the commerce and industry of the country, but it is thought that with perfected methods such plants as, for example, lac and indigo would be of value for European consumption.

Industries of Tunis.—From La Quinzaine Coloniale, Paris, October 10, 1901, the following is summarized:

Tunis was formerly one of the greatest industrial centers of Mohammedan Africa; its products were distributed throughout the northern part of the continent and caravans carried them into the heart of the Sudan. This period of activity and the prosperity of which it was the source have disappeared under the influence of various causes, the chief of which is the competition of European manufacturers, who, with the aid of improved machinery, are able to copy more or less accurately certain local products and to send them to Mohammedan countries. For example, the chéchias (red caps prescribed to the votaries of Islam by their religion) are now for the most part of Austrian origin; the Tunisian manufacturers, slaves to their traditional processes, continue to make them of a better quality, but dearer, and so see their trade vanish. There are, however, certain textile products which have not disappeared. Silk weaving and dyeing supports some 4,000 people at Tunis, and wool weaving occupies a certain additional number throughout the regency. They manufacture the different articles of native wear, as the burnoose, which everybody knows; the large blouses, called according to their style or fineness "gebba" or "gandoura," the coverings in which men and women wrap themselves; the cloak with a hood; the "haik," a silk covering worn by women in the street; the face covering also worn by native women; besides the blankets and rugs, which are the most important pieces of Mussulman furniture. Indeed, the fame of the rugs of Kairouan equals that of the finest of the Orient. The great variety of these native articles and their multiple dimensions necessitate a special manufacture, incompatible with the wholesale production of machinery.

Date-Palm Industry of the Sahara.—La Quinzaine Coloniale, Paris, October 10, 1901, has the following:

The cultivation of the date palm in the oases of the Djerid is carried on to a degree of perfection which can hardly be surpassed. In the Paris exposition of 1900, 105 varieties of dates were exhibited. These are broadly divided into two principal groups: the degal—tender, oily dates, which do not keep very long—and the khalet, with firm pulp and dry skin, hard to the touch, which are easily preserved. In the first class belongs the deglat-ennour, the date which is the source of the wealth and fame of the Djerid. This variety has been cultivated about two hundred and forty years, and can be surely propagated only by shoots. It seems certain that the three great oases of El-Oudian, Tozeur, and Nefta, now separated by arid plains from 7 to 15 miles wide, were formerly united, making a green belt, an immense

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garden, around the salt lake Djerid, extending from the mountains of Sidi-bou-Hallal to the south of Nefta.

The height of the date palm differs according to its age, variety, and the earth in which it grows. It sometimes reaches, but rarely surpasses, a height of 90 feet and a trunk measurement of 10 feet in circumference. The variety with tap roots has a tougher wood, with a more compact grain. The palm tree is the blessed tree of the Arabs; it is used for everything and all parts are utilized. The fruit serves for the nourishment of a numerous population; the woven leaves are made into hats, baskets, mats, fans, dusters, and even receptacles for water; the ribs of the leaves are employed for making ceilings, cradles, rails, framework of beds and tents; the thorny points, for combs for carding and weaving wool. The textile matter at the base of the palm which we call vegetable down, and the Arabs liffa, makes excellent cords, mats, and mattresses, and is woven into sacks for holding dates; the stalks of the bunches are utilized in making large ropes, and those of a particular variety, called gundi, are employed for dyeing. The sprigs which support the dates in case of need are fed to camels; they are also used for making brooms and matches, which are lighted by friction against each other. The palm tree, tapped in a certain manner, produces a drink, sweet or fermented, according to the process of extraction. The trunk, independent of its use as fuel, is employed to the exclusion of other woods in joiners' work, carpentry, and the framework of houses. Finally, when too old to bear fruit, the tree still offers a last gift—its heart, of which the natives are very fond.

Dates are allowed to ripen on the tree; certain very rare varieties are gathered one by one as soon as mature and passed by hand to the ground; but the rule for ordinary fruit is to cut the entire bunch and let it fall upon mats spread on the ground.

Peppermint Oil and Crystals in Japan.—A recent edition of Nachrichten für Handel und Industrie, Berlin, says:

The export of peppermint oil from Japan is figured for the years 1897–1899 as follows:

Year.	Quantity.	Value.
	Grams.	
1897	16,125,600	$27,868
1898	11,886,600	25,917
1899	18,363,000	36,415

The export of mint-oil crystals for 1898 and 1899 is shown in the following table:

Country.	1899.		1898.	
	Grams.		*Grams.*	
British India	2,065,800	$9,510	1,317,600	$5,216
France	2,604,000	9,722	327,000	1,016
Germany	6,301 200	21,875	2,997,000	10,337
Great Britain	4,522,200	14,744	2,079,000	6,949
Hongkong	5,737,800	21,294	7,204,200	24,776
United States	6,120,600	21,634	1,377,000	4,419
Other lands	11,400	36	52,200	176
Total	27,363,000	98,815	15,354,000	52,889

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The peppermint plants, called hakka in Japanese, are best cultivated in fields some 2,000 feet above the level of the sea, where they are subjected to a primitive process of distillation, after which the oil is sent in an impure state to the export markets. Yokohama is the most important of these. Here, by a simple method, some 40 per cent of the oil is separated as mint-oil crystals, the residue being exported as "still oil," containing about 10 per cent of pure mint oil.

Lacquer Industry in Japan.—In the Nachrichten für Handel und Industrie, Berlin, August 23, 1901, the following statistics concerning the lacquer industry in Japan appear:

In 1894, there were 4,407 manufactories, employing 14,092 workmen, which produced goods to the value of $1,297,350. In 1899, the number of manufactories was 260, employing 20,373 persons, and the value of the production was figured at $2,808,834.

Makoyama is the center of this industry. The production and export of lacquered goods from Japan for the last five years were:

Year.	Production.	Exportation.
1896	$1,641,382	$472,469
1897	2,049,806	382,165
1898	2,432,945	390,000
1899	2,808,834	492,356
1900	Not known.	531,185

Trade of Burma.—From La Quinzaine Coloniale, Paris, December 25, 1901, the following is taken:

The total commerce of Burma, distributed according to countries of origin, for the year 1899–1900, was:

Country.	Imports.	Exports.
England	$9,795,759	$7,718,146
Austria	127,872	128,762
Belgium	477,543	7,809
France	230,671	24,128
Germany	963,484	296,631
Netherlands	402,172	33,004
Italy	9,649	42,466
Russia	42,489	59,444
Zanzibar	2,225	348,747
Egypt	6,817	13,218,163
Mauritius	26,093	38,904
United States	498,120	25,453
Aden	23,361	634
Arabia	12,855	49,667
Ceylon	38,832	831,603
China	313,248	225,962
Japan	442,480	840,547
Straits Settlements	2,405,779	6,799,539
Other countries	82,406	2,733,382
Total	15,901,855	33,432,991

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The principal productions are rice, millet, oleaginous grains, cotton, maize, vegetables, fruits, tobacco, and wheat. Rice is the chief article of exportation, with 1,906,738 tons in the first ten months of 1900; next in value comes teak wood, with 272,286 tons. This wood is largely used for naval construction. The mineral production comprises jade, rubies, gold, coal, amber, tin, and petroleum. The large manufactories are entirely in the hands of Europeans, except a few Chinese houses, which work rice mills, mechanical sawmills, manufactories of jute, sacks, and cotton cloth. Sculpture in wood and ivory, engraved and embossed silver work, and embroideries of gold and silver occupy the native workmen.

Pumice Stone Industry in Italy.—According to the Nachrichten für Handel und Industrie, of Berlin, a large deposit of pumice stone, covering about 1,500 hectares (3,706 acres), is found in the northwestern part of the Island of Lipari. The bed, which varies in depth from 3 to 13 feet, consists of an irregular mixture of pumice stone and volcanic ash. The mining is carried on in a primitive manner by means of small quarries, which are extended from 10 to 12 yards, as the ventilation or the disposition of the stone permits. The number of these quarries is from 200 to 220, but most of them are worked only from May to October, quite two-thirds being idle during the winter months. At the time of the greatest activity, 800 workmen are employed, including 100 women. In 1890, the production amounted to 15,000 tons, and it has increased since that date. The selling price of pumice stone varies from $9.14 to $54.81 per ton, according to the quality; very fine qualities are produced, which bring $365 and even $914 per ton. The average price, however, is $13 to $29. The pumice stone is sold to merchants, who sort it according to color, weight, and size, and then send it to Lipari, where it is cleaned and polished for market. The refuse stone and small pieces are ground to powder in handmills. There are fifteen grades of pumice stone recognized in the market, besides the variety para para, gray and mixed, as it comes from the quarry; the others are of different degrees of fineness and coloring, and are used for lithographic purposes, for preparing leather, felt, etc., for polishing and cleaning marble, and the very finest grades for polishing works of art; the variety called alexandrine, brick shaped, is sometimes used for light building constructions. In the preparation and cleansing of pumice stone for the market, about 290 work people, 120 of whom are women, are employed in the factories.

Wine and Honey in South Australia.—The Revue du Commerce Extérieur, Paris, December 7, 1901, says:

The raising of bees is making marked progress in South Australia, as well as the manufacture of honey.

According to the official statistics published by the Department of Agriculture,

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the number of hives during the year 1900–1901 was 26,700, compared with 12,182 in 1899–1900.

The quantity of honey produced during this last period amounted to 523,981 pounds, while the production has more than tripled during the year 1900–1901, being figured at 1,708,133 pounds.

The same statistics show that the quantity of wine produced by the vine-growers of South Australia in 1900–1901 is more than double that of the preceding year, being as follows:

	Gallons.
1899–1900	1,342,960
1900–1901	2,813,301

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PUBLICATIONS OF THE BUREAU OF FOREIGN COMMERCE.*

The publications of the Bureau of Foreign Commerce, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from diplomatic and consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued daily, except Sundays and legal holidays, for the convenience of the newspaper press, commercial and manufacturing organizations, etc.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months. There is also issued an annual edition of Declared Exports, embracing the returns for the fiscal year.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883; Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885–86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs in Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

In 1890, the Department decided to publish reports on special subjects in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1890 and 1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet-Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries. (New edition, 1897.)

Vol. 4 (1891).—Port Regulations in Foreign Countries.

Vol. 5 (1891).—Canals and Irrigation in Foreign Countries. (New edition, 1898.)

Vol. 6 (1891 and 1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

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* Formerly Bureau of Statistics. Name changed to Bureau of Foreign Commerce by order of the Secretary of State, July 1, 1897.

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Vol. 9 (1892 and 1893).—Australian Sheep and Wool and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour. (New edition, 1897.)

Vol. 11 (1894).—American Lumber in Foreign Markets. (New edition, 1897.)

Vol. 12 (1895).—Highways of Commerce. (New edition, 1899.)

Vol. 13 (1896 and 1897).—Money and Prices in Foreign Countries.

Vol. 14 (1898).—The Drug Trade in Foreign Countries.

Vol. 15 (1898).—Part I. Soap Trade in Foreign Countries; Screws, Nuts, and Bolts in Foreign Countries; Argols in Europe, Rabbits and Rabbit Furs in Europe, and Cultivation of Ramie in Foreign Countries. Part II. Sericulture and Silk Reeling and Cultivation of the English Walnut.

Vol. 16 (1899).—Tariffs of Foreign Countries. Part I. Europe. Part II. America. Part III. Asia, Africa, Australasia, and Polynesia. Supplement (1900). Tariffs of Chile and Nicaragua.

Vol. 17 (1899).—Disposal of Sewage and Garbage in Foreign Countries; Foreign Trade in Coal Tar and By-Products.

Vol. 18 (1900).—Merchant Marine of Foreign Countries.

Vol. 19 (1900).—Paper in Foreign Countries; Uses of Wood Pulp.

Vol. 20 (1900).—Part I. Book Cloth in Foreign Countries, Market for Ready-Made Clothing in Latin America, Foreign Imports of American Tobacco, and Cigar and Cigarette Industry in Latin America. Part II. School Gardens in Europe. Part III. The Stave Trade in Foreign Countries.

Vol. 21 (1900).—Part I. Foreign Markets for American Coal. Part II. Vehicle Industry in Europe. Part III. Trusts and Trade Combinations in Europe.

Vol. 22 (1900 and 1901).—Part I. Acetic Acid in Foreign Countries. Part II. Mineral-Water Industry. Part III. Foreign Trade in Heating and Cooking Stoves.

Vol. 23 (1901).—Part I. Gas and Oil Engines in Foreign Countries.

Of these SPECIAL CONSULAR REPORTS, Australian Sheep and Wool, Cotton Textiles in Foreign Countries, Files in Spanish America, Fire and Building Regulations, Fruit Culture, Gas in Foreign Countries, India Rubber, Lead and Zinc Mining, Malt and Beer in Spanish America, Port Regulations, Refrigerators and Food Preservation; Sericulture, etc.; Vagrancy, etc., are exhausted, and no copies can be supplied by the Department.

There was also published, in 1899, Proclamations and Decrees during the War with Spain, comprising neutrality circulars issued by foreign countries, proclamations by the President, orders of the War and Navy Departments, and war decrees of Spain.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, Porto Rico, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Foreign Commerce, Department of State, Washington, U. S. A."

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VALUES OF FOREIGN COINS AND CURRENCIES.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

The fact that the market exchange value of foreign coins differs in many instances from that given by the United States Treasury has been repeatedly called to the attention of the Bureau of Foreign Commerce. An explanation of the basis of the quarterly valuations was asked from the United States Director of the Mint, and under date of February 7, 1898, Mr. R. E. Preston made the following statement:

"When a country has the single gold standard, the value of its standard coins is estimated to be that of the number of grains fine of gold in them, 480 grains being reckoned equivalent to $20.67 in United States gold, and a smaller number of grains in proportion. When a country has the double standard, but keeps its full legal-tender silver coins at par with gold, the coins of both gold and silver are calculated on the basis of the gold value.

"The value of the standard coins of countries with the single silver standard is calculated to be that of the average market value of the pure metal they contained during the three months preceding the date of the proclamation of their value in United States gold by the Secretary of the Treasury. The value of the gold coins of silver-standard countries is calculated at that of the pure gold they contain, just as if they had the single gold standard.

"These valuations are used in estimating the values of all foreign merchandise exported to the United States."

The following statements, running from January 1, 1874, to January 1, 1902, have been prepared to assist in computing the values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1896, and in the quarterly valuations thereafter.

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To meet typographical requirements, the quotations for the years 1875–1877, 1879–1882, 1884–1887, 1895, and 1897 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

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A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange."

Countries.	Standard.	Monetary unit.	Value in U.S. gold.	Coins.
Argentine Republic..	Gold and silver..	Peso.....	$0.96,5	Gold—argentine ($4.82,4) and ½ argentine; silver—peso and divisions.
Austria-Hungary*.....	Gold	Crown.....	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium.....	Gold and silver..	Franc	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil	Gold	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	.....do	Dollar.....	1.00	
British Honduras.....	.....do	.....do	1.00	
Chile.....	.....do	Peso.....	.36,5	Gold—escudo ($1.25), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Costa Rica.....	.....do	Colon.....	.46,5	Gold—2, 5, 10, and 20 colons; silver—5, 10, 25, and 50 centisimos.
Cuba	Gold and silver..	Peso.....	.92,6	Gold—doubloon ($5.01,7); silver—peso (60 cents).
Denmark.....	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Ecuador†	.....do	Sucre.....	.48,7	Gold—10 sucres ($4.8665); silver—sucre and divisions.
Egypt.....	.....do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland	.....do	Mark.....	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver..	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark.....	.23,8	Gold—5, 10, and 20 marks.
Great Britain.....	.....do	Pound sterling..	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece	Gold and silver..	Drachma.....	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	.....do	Gourde.....	.96,5	Silver—gourde.
India‡.....	Gold	Rupee	.32,4	Gold—sovereign ($4.8665); silver—rupee and divisions.
Italy	Gold and silver..	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Japan §.....	Gold	Yen	.49,8	Gold—1, 2, 5, 10, and 20 yen.
Liberia	.....do	Dollar.....	1.00	
Netherlands.....	Gold and silver..	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar.....	1.01,4	Gold—$2 ($2.02,7).
Peru‖.....	.....do	Sol	.48,7	Gold—libra ($4.8665); silver—sol and divisions.
Portugal	.....do	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Russia¶	.....do	Ruble	.51,5	Gold—imperial ($7.718) and ½ imperial ($3.80); silver—¼, ½, and 1 ruble.
Spain.....	Gold and silver..	Peseta.....	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway.	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver..	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Uruguay	.....do	Peso.....	1.03,4	Gold—peso; silver—peso and divisions.
Venezuela.....	Gold and silver..	Bolivar.....	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

*The gold standard went into effect January 1, 1900 (see Commercial Relations, 1899, Vol. II, p. 7). Values are still sometimes expressed in the florin, which is worth 2 crowns.

† Gold standard adopted in November, 1900. (See Consular Reports No. 225, June, 1899.)

‡ For an account of the adoption of the gold standard, see Consular Reports No. 238, p. 359.

§ Gold standard adopted October 1, 1897. (See Consular Reports No. 201, p. 259.)

‖ Gold standard adopted October 13, 1900.

¶ For an account of the adoption of the gold standard, see Review of the World's Commerce, 1896–97, p. 254.

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B.—*Countries with fluctuating currencies, 1874–1898.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1878.	1883.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.40,1	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.81,2	.69,9	.68	.85
Central America	do	Peso	.96,5	.91,8	.....	.69,9	.68	.85
China	do	Haikwan tael	1.61	.....	.....	.....	.....	.....
Colombia	do	Peso	.96,5	.96,5	.81,2	.69,9	.68	.85
Ecuador	do	do	.96,5	.91,8	.81,2	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	.....	4.97,4	4.90	4.94,3	.....	.....
India	Silver	Rupee	.45,8	.43,6	.38,6	.32,2	.32,3	.40,4
Japan	Gold	Yen	.99,7	.99,7	.....	.99,7	.99,7	.99,7
	Silver		.....	.....	.87,6	.75,3	.73,4	.91,7
Mexico	do	Dollar	1.04,7⅛	.99,8	.88,2	.75,9	.73,9	.92,3
Netherlands‡	Gold and Silver.	Florin	.40,5	.38,5	.....	.....	.....	.....
Peru	Silver	Sol	.92,5	.91,8	.81,2	.69,9	.68	.85
Russia	do	Ruble	.77,17	.73,4	.65	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.73,3	.63	.61,4	.76,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1891.	1892.	1893.	1894.	1896.	1898.
Austria-Hungary*.	Silver	Florin	$0.38,1	$0.34,1	.....	.....	.....	.....
Bolivia	do	Boliviano	.77,1	.69,1	$0.61,3	$0.51,6	$0.49,1	$0.42,4
Central America	do	Peso	.77,1	.69,1	.61,3	.51,6	.49,1	.41,4
Colombia	do	do	.77,1	.69,1	.61,3	.51,6	.49,1	.42,4
Ecuador	do	do	.77,1	.69,1	.61,3	.51,6	.49,1	.42,4
India	do	Rupee	.36,6	.32,8	.29,2	.24,5	.23,3	.20,1
Japan§	do	Yen	.83,1	.74,5	.66,1	.55,6	.52,9	.....
Mexico	do	Dollar	.83,7	.75	.66,6	.56	.53,3	.46
Peru	do	Sol	.77,1	.69,1	.61,3	.51,6	.49,1	.42,4
Russia§	do	Ruble	.61,7	.55,3	.49,1	.41,3	.39,3	.....
Tripoli	do	Mahbub of 20 piasters.	.69,5	.62.3	.55,3	.46,5	.44,3	.....

*The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (see CONSULAR REPORTS No. 147, p. 623) established the gold standard.

†The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

§See footnote, table of fixed currencies.

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C.—*Quarterly valuations of fluctuating currencies.*

Countries.	Monetary unit.	1899.				1900.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.43,9	$0.43,4	$0.44,3	$0.43,6	$0.42,7	$0.43,6	$0.43,8	$0.45,1
Central America.	Silver peso	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6	.43,8	.45,1
China	Amoy tael	.71	.70,2	.71,6	.70,5	.69,1	.70,5	.70,9	.72,9
	Canton tael	.70,8	.70	.71,4	.70,3	.68,9	.70,3	.70,7	.72,7
	Chefoo tael	.67,9	.67,2	.68,4	.67,4	.66,1	.67,4	.67,8	.69,7
	Chinkiang tael	.69,3	.68,6	.69,9	.68,9	.67,5	.68,8	.69,3	.71,2
	Fuchau tael	.65,6	.65	.66,2	.65,2	.64	.65,2	.65,6	.67,4
	Haikwan tael	.72,2	.71,4	.72,8	.71,8	.70,3	.71,7	.72,1	.74,2
	Hankau tael	.66,4	.65,7	.67	.66	.64,7	.65,9	.66,3	.68,2
	Hongkong tael	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
	Ningpo tael	.68,2	.67,5	.68,8	.67,8	.66,5	.67,7	.68,2	.70,1
	Niuchwang tael	.66,5	.65,9	.67,1	.66,1	.64,8	.66,1	.66,5	.68,4
	Shanghai tael	.64,8	.64,1	.65,4	.64,4	.63,1	.64,4	.64,8	.66,6
	Swatow tael	.65,5	.64,9	.66,1	.65,1	.63,9	.65,1	.65,5	.67,4
	Takao tael	.71,4	.70,7	.72	.71	.69,6	.70,9	.71,4	.73,4
	Tientsin tael	.68,8	.68	.69,4	.68,3	.67	.68,3	.68,7	.70,7
Colombia	Silver peso	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6	.43,8	.45,1
Ecuador †	...do	.43,9	.43,4	.44,3	.43,6				
India	Silver rupee‡	.20,8	.20,6	.21	.20,7	.20,3	.20,7	.20,8	
Mexico	Silver dollar	.47,7	.47,2	.48,1	.47,4	.46,4	.47,3	.47,6	.49
Persia	Silver kran	.08,1	.08	.08,2	.08	.07,9	.08	.08,1	.08,3
Peru †	Silver sol	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6	.43,8	.48,7

Countries.	Monetary unit.	1901.				1902.
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.
Bolivia	Silver boliviano.	$0.46,8	$0.45,1	$0.43,6	$0.42,8	$0.41,3
Central America	Silver peso	.46,5	.45,1	.43,6	.42,8	.41,3
China	Amoy tael	.75,7	.72,9	.70,5	.69,1	.66,9
	Canton tael	.75,5	.72,7	.70,3	.68,9	.66,7
	Chefoo tael	.72,4	.69,7	.67,4	.66,1	.63,9
	Chinkiang tael	.74	.71,2	.68,8	.67,5	.65,3
	Fuchau tael	.70,1	.67,5	.65,2	.64	.61,8
	Haikwan tael	.77,1	.74,2	.71,7	.70,4	.68
	Hankau tael	.70,9	.68,2	.65,9	.64,7	.62,6
	Hongkong tael	(*)	(*)	(*)	(*)	(*)
	Ningpo tael	.72,8	.70,1	.67,8	.66,5	.64,3
	Niuchwang tael	.71	.68,4	.66,1	.64,8	.62,7
	Shanghai tael	.69,2	.66,6	.64,4	.63,2	.61,1
	Swatow tael	.70	.67,4	.65,1	.63,9	.61,8
	Takao tael	.76,2	.73,4	.70,9	.69,6	.67,3
	Tientsin tael	.73,4	.70,7	.68,3	.67	.64,8
Colombia	Silver peso	.46,8	.45,1	.43,6	.42,8	.41,3
Mexico	Silver dollar	.50,9	.49	.49	.46,4	.44,9
Persia	Silver kran	.08,6	.08,3	.08,3	.07,9	.07,6

* The "British dollar" has the same legal value as the Mexican dollar in Hongkong, the Straits Settlements, and Labuan.

† See footnote, table of fixed currencies.

‡ The sovereign is the standard coin of India, but the rupee is the money of account. See also table of fixed currencies.

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FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalents.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovets	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do*	Japan	1.31 pounds.
Do	Java, Siam, and Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chetvert	Russia	5.7748 bushels.
Chih	China	14 inches.

*More frequently called "kin." Among merchants in the treaty ports it equals 1.33⅓ pounds avoirdupois.

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Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Frasila	Zanzibar	35 pounds.
Fuder	Luxemburg	264.17 gallons.
Funt	Russia	0.9028 pound.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	....do	2.471 acres.
Hectoliter:		
Dry	....do	2.838 bushels.
Liquid	....do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	6 feet.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	....do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Koku	Japan	4.9629 bushels.
Korree	Russia	3.5 bushels.
Kwan	Japan	8.28 pounds.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	113⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Spain	1.0144 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.

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Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅞ acres.
Do	Nicaragua and Salvador	1.727 acres.
Marc	Bolivia	0.507 pound.
Maund	India	82⅔ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Milla	Nicaragua and Honduras	1.1403 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.82838 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands	137.9 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Spain	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile,* Chile, Mexico, and Peru	101.41 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¾ pounds.
Sagene	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	0.02451 acres.
Seer	India	1 pound 13 ounces.
Shaku	Japan	11.9305 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Sun	Japan	1.193 inches.
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.

*Although the metric weights are used officially in Spain, the Castile quintal is employed in commerce in the Peninsula and colonies, save in Catalonia; the Cataian quintal equals 91.71 pounds.

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Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	Sweden	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Central America	32.87 inches.
Do	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Spain	0.914117 yard.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (1,000 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.

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Meter equals 39.37 inches.
Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acre.

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CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

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UNITED STATES TRADE WITH ASIATIC TURKEY.

The following extracts are from the annual report of Consul Norton, of Harput, to appear in full in Commercial Relations, 1901:

The United States consulate at Harput was opened January 1, 1901. The two vilayets of Mamouret-ul-Aziz and Diarbekir compose the consular district, and are chiefly pastoral and agricultural. During the past few years, there has been retrogression in commerce, due to the restrictions placed upon the movements of merchants.

The imports into Diarbekir in 1900 were valued at $1,444,512 and the exports at $1,647,040. Wool, sausage casings, and leather are shipped to the United States. During the past few months, our sewing machines (seventy-six, valued at $2,310) have been introduced.

The imports into Mamouret-ul-Aziz were $716,490, of which the United States sent some $9,000 worth; exports amounted to $453,360, of which $15,000 worth went to the United States. The figures for the total trade include the traffic with the neighboring provinces.

OPPORTUNITIES FOR COMMERCE WITH THE UNITED STATES.

There is much to favor the growth of commercial ties between this region and the United States. Four-fifths of the recent emigration from Asia Minor to the United States is from this consular district. As a result, nearly every family has a member or relative in America. An active correspondence is maintained. Return visits are frequent. Gifts are often sent. There are extensive remittances

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of money from America. These have reached in the past the annual amount of $500,000; at present, the amount is about $200,000. To factors of this nature is to be added the widespread influence of the American educational effort at Harput and in the surrounding region. Contact for nearly half a century with American teachers, American methods, and American family life has led to a high admiration for all that bears the stamp of our country's make and to a deep-seated confidence in American integrity and business principles. There are probably more English-speaking persons in and about Harput than in any other city of Asia Minor. It will be easily seen that this region is in a peculiarly receptive mood for American commercial enterprise. The establishment of this consulate, at the beginning of 1901, was naturally promptly followed by efforts to open direct trade relations. These may be briefly noted.

Agricultural machinery and implements.—The implements in use are practically identical with those employed in Biblical times. About the only modern apparatus is the fanning mill, introduced some years since by American missionaries. A somewhat rude, but effective, imitation of the American type is largely used. The operations of plowing, harrowing, cultivating, reaping, and thrashing are all performed with primitive appliances. An enterprising graduate of an American agricultural college, trained in an experiment station, has energetically taken up the matter of introducing American machines. An extensive consignment has been received and will be employed at various points during this autumn and next year. A farm on the Euphrates will be cultivated exclusively on American principles and with American machines. The governor-general of the vilayet is warmly interested in the effort, and has offered, for experimental purposes, a tract of land close to Mezreh, the chief city, where the working of the implements can be readily observed by a large suburban and rural population. Orders for plows, etc., have already been received. Farmers await with eagerness the opportunity to see the working of the reaper, which should accomplish in a day what eighty men perform with existing facilities.

The chief difficulty encountered in connection with the introduction of these machines is the lack of draft horses. Horses are abundant, but are used almost exclusively for the saddle. Buffaloes and oxen are employed for plowing and for drawing the rude native carts. The few freight and passenger wagons on the main roads are drawn by horses.

Sewing machines.—An agency of one of the standard American machines has been established here and has met with prompt success. Extensive sales have been made, not only in the twin cities of

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Harput and Mezreh, but in the other populous centers of the vilayet and in the cities of the Tigris. Within fifteen months, this agency has disposed of 332 machines, with net receipts of $9,710. The sales in the different cities have been as follows:

	Number.
Harput and Mezreh	102
Malatia	49
Arabkir	14
Diarbekir	76
Mosul	64
Bagdad	27

This agency has been in the hands of a competent, enterprising native, assisted by a female operator. The agent receives $30 per month and his assistant $13.25. Both have also small commissions on sales. The American machine has completely driven from the markets of this district the English and German machines, hitherto in vogue.

This example of how quickly and easily a well-made, thoroughly reliable American article can be introduced into this country and gain a permanent foothold is well worthy of study on the part of manufacturers seeking marts in the Orient. There is no doubt that many other articles of general utility can be introduced with equal success by using similar means.

Life insurance.—An analogous example is found in the case of the establishment here of an agency of a prominent American life-insurance company—the first experiment of that sort in the region. Within fourteen months, seventy policies have been issued. The average amount of insurance is $500. There is apparently quite a field for American enterprise in this direction. For fire insurance, there is but little demand, on account of the prevalent adobe construction.

Bicycles.—The bicycle which I brought with me was the pioneer in this region. I have found excellent wheeling in the broad plain of Harput and on most of the routes and bridle paths about the vilayet, although the abundance of stones causes a rapid wear of the tires. As a result of the frequent appearance of this wheel in and about the cities of Mezreh and Harput, a demand has sprung up for bicycles and an agency of a prominent American firm has been established here. Another year will probably witness a general use of the article.

Tools and machinery.—There is a marked demand for American tools, their strength and lightness recommending them above all competitors. The same remark applies to machinery in general. An expensive American lathe has been ordered here, after unsatisfactory experiments with those of European make.

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Milling machinery.—Active inquiry has been made for the simpler forms of milling machinery for flour, cotton, and silk, to replace the primitive styles now in use, and correspondence is being exchanged.

Nails and horseshoes.—American wire nails have made their appearance in this market during the past few months and have begun to displace the Belgian product. As in other parts of the Orient, there is no reason why they should not permanently gain the trade. Horseshoe nails are manufactured entirely by hand, and there is a distinct opening for American enterprise in this direction. The same may be said of shoes for the immense number of horses, mules, and donkeys required for transportation. The customary type is a plate of thick iron, covering the entire sole of the hoof, with a perforation in the center. It rapidly wears away, and the services of the blacksmith are in frequent requisition. Once introduced, the advantages of the American-manufactured shoe would be promptly recognized, and it would easily secure a "footing."

Clocks and watches.—American clocks and watches have been frequently brought here by returned emigrants, and are highly esteemed. A small number find their way to this market, and attempts are being made to increase the sale.

Cottons and calicoes.—Mention has already been made* of the introduction of American cabot into this market during the current year. It has met with such marked success and the quality is so highly appreciated that large quantities have been ordered. There is little doubt but that it will permanently hold the market, unless there is a very pronounced lowering of price and improvement in quality in the case of the wares from Manchester hitherto in vogue throughout this region. There is but little doubt, also, that American prints, ginghams, and calicoes would easily capture this market and displace the products of Europe, if the proper effort were made to meet popular taste.

This consulate is at present actively seeking to place a competent local merchant in touch with our manufacturers and open the way for the introduction of an extensive series of these fabrics.

Shoes.—The value of the American shoe is thoroughly appreciated here, as hundreds of emigrants from the district are employed in the shoe factories of eastern Massachusetts. At the suggestion of this consulate, a returned ex-operative is arranging to establish here an agency for American foot wear. There would probably be a good demand for rubber shoes, likewise, as the Russian and German wares which reach this market are of a decidedly inferior grade.

Men's furnishings.—There is a lively demand for collars, cuffs, ties, shirts, etc., and a local dealer has entered into direct communication with American houses.

*Advance Sheets No. 1200 (November 27, 1901).

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Sawmills and horsepower.—All sawing here is done by hand. There would be a good opening for the inexpensive types of sawmills, run by water power or by horsepower.

In fact, the introduction of simple forms of horsepower for a variety of usages is greatly to be desired. Looms, lathes, and all forms of machinery, native or imported (with the exception of millstones), are driven by hand power.

As most industries, for better security, are collected in towns and cities, the abundant water power of the vilayet is utilized but slightly. Fuel is too costly for steam power. Cattle, buffaloes, horses, mules, and donkeys abound. Existing conditions would seem to dictate the extended use of horsepower machinery.

Vehicles.—The American farm cart and farm wagon should find a market here. Native ox and buffalo carts are of most primitive make. The wheels are solid blocks of wood, surrounded by narrow iron tires, and rigidly attached to the axle. No provision is made to overcome friction, and the approach of these vehicles is heralded from afar by a gruesome creaking. The loads transported on these carts are about one-tenth of what the draft animals could haul with proper construction, while the narrow tires cut up the country roads. The arabas, or wagons, drawn by horses for freight and passenger transportation on the few modern roads are also ill-constructed and are constantly breaking down. It would probably be advantageous, in view of heavy freight rates, to import strong axles and wheels, or the spokes, hubs, fellies, and tires, ready to put together. The construction of boxes, tongues, shafts, etc., could be effected by native wheelwrights, although there is a sad lack of the varieties of wood employed in America for such purposes. Springs for lighter vehicles would also find a certain market.

Leather and saddlery.—There is general dissatisfaction with the quality of leather produced by the native tanneries, as well as with that imported from abroad—chiefly from Italy. Sets of harness lately brought from the United States have excited great admiration, and there is a marked demand for a higher grade of saddlery than can be manufactured from the current supply of leather.

Buffalo leather is highly esteemed here, and the inquiry is made whether it would be possible to send the buffalo hides of the vilayet to America and have them returned in the form of leather.

Windmills and artesian wells.—The steady deforestation of this country has, as in southern Europe, brought about a condition closely similar to the semiarid portions of our Western States. Irrigation has been practiced since time immemorial; but springs are drying up, and the insufficiency of the existing water supply to meet urban needs and the requirements of agriculture is felt more and more keenly in various parts of the vilayet, especially in and

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near the twin cities of Harput and Mezreh. Capital is lacking for any extensive diversion of the upper waters of the eastern branch of the Euphrates, which under more favorable economic conditions could be most advantageously employed.

The governor-general has requested this consulate to study the feasibility of introducing the windmill or the artesian well. Correspondence has accordingly been conducted with American manufacturers of windmills and drilling machinery, local capital has been enlisted, and experiments will shortly be made with both methods of securing a water supply.

There would seem to be no question of the adaptability of the windmill. The supply of water 25 to 75 feet beneath the surface is ample. During the summer and autumn months, there is usually sufficient wind to keep the vanes in activity for eighteen hours out of the twenty-four.

Actual experiment alone can decide as to the possibilities of the artesian well. There is, unfortunately, no visible evidence of the existence of parallel strata of clay, so desirable as indicating a probability of tapping subterranean streams of water under pressure. On the other hand, the location of the extensive Harput plain, at the base of the lofty Taurus range, largely composed of limestone, would, in itself, offer a favorable factor.

American agency.—To further the direct importation of American goods, especially along the lines indicated above, an "American agency for eastern Turkey" has, at the suggestion of this consulate, been organized here. The manager, who resided for several years in America, is the authorized representative of several large manufacturing houses there, and is also in active correspondence with firms in order to introduce their wares into this district and bring to the attention of local dealers and consumers the merits and advantages of American standard goods and labor-saving devices. There is every indication that this undertaking will develop into a valuable means of securing the entrance of American commodities under favorable conditions, and of building up a permanent market. It is planned to extend the work of the agency to the other large cities in this and adjoining vilayets.

Commercial exhibit.—In order to facilitate the work of the above agency, as well as to enable local dealers to enter directly into relations with American houses, a large room in the consulate has been devoted to the purposes of a commercial museum. All samples forwarded by American houses are neatly displayed and provided with labels in English, Turkish, and Armenian, giving net prices and cost of transportation, with necessary information. It is hoped that this exhibit will grow to be a valuable adjunct in enabling the dealers and consumers of this region to become familiar with a wide range

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of American products. The staff of the consulate will spare no pains in furthering the interests of those who seek to enter these markets and in paving the way for tentative and more permanent business relations.

Journals.—A variety of American trade and technical journals are kept regularly on file at the consulate and are brought constantly to the attention of visitors. The large number of persons here who are familiar with English facilitates the use of these journals, especially of their advertising columns.

Direct exportations to the United States.—During the nine months subsequent to the opening of this consulate, ended October 31, 1901, the following was the declared value of exports from this consular district to the United States:

Rugs and embroideries	$355.69
Sausage casings (sheep's intestines)	1,142.94
Goatskins	42.76
Lambskins	15.75
Tanning powder	2.68
Total	1,559.82

Summary.—In conclusion, I would state that there are excellent opportunities for gradually building up a reliable market for American goods in this consular district.

The favoring conditions are as follows:

First. There is an increasing dissatisfaction with the cheap products of Germany, Austria, and even England which have come to this market.

Second. There is great confidence in American integrity and in the quality of American wares.

Third. The large emigration from this district is almost exclusively to America. The many returned emigrants bring back a taste for American commodities and facilitate the establishment of direct relations between the two countries.

Fourth. No European house or agency has yet been established here. The only existing agencies are those opened during the past few months for American sewing machines, bicycles, agricultural machinery, and life insurance.

The difficulties to be encountered are the following:

First. The high freight rates and the delay in receiving consignments, due to (*a*) the distance from the seacoast and (*b*) the lack of direct sea communication with the United States.

Second. The length of time required for correspondence. Two months elapse before receiving the response to a letter sent to New York.

Third. The diminishing supply of cash in the interior of Asia Minor, due to the unfortunate financial condition of the Empire.

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Fourth. The unsettled state of credits, following the rude shock to the commercial class of the region during the massacres of 1895.

Success in gaining a controlling and permanent foothold in the market is dependent more or less upon the following factors:

First. The establishment of direct, regular freight lines from America to the ports of Asia Minor on the Black Sea and the Mediterranean.

Second. Abundant use of samples of the articles fitted for this market, as indicated above; utilizing the facilities of the commercial museum at this consulate.

Third. The employment, for different lines of merchandise, of competent local agents who have resided in America, have a command of English, and are familiar both with American business methods and with the local needs, commercial customs, and conditions of credit.

Fourth. The sending of wide-awake American traveling agents, well equipped with samples, who can study the general commercial field, establish subagencies, and stimulate direct trade relations.

Fifth. Still better, the establishment at both Diarbekir and Harput of agencies, conducted by energetic, aggressive Americans, who can promptly and effectively take advantage of existing trade conditions and direct the general commercial movement. These centers offer a good field for young men combining linguistic talent with business ability.

Sixth. Above all, a rigid adherence to honest workmanship and good materials in all American wares which enter this market.

It must not be forgotten that thus far the personal equation of a German, English, or other foreign trader is totally unknown in these provinces. Whether this state of affairs will continue in the near future is doubtful, in view of the plans attributed to European powers, especially to Germany, to capture the commerce of Mesopotamia and Asia Minor. What is certain is that competent, live American traders have an exceptional opportunity now to establish themselves in this region and gain such a foothold that serious competition in the future will become a matter of extreme difficulty.

AMERICAN GOODS IN SMYRNA.

An earnest effort has recently been made by the representative of a New York firm of export merchants to introduce American goods into Turkey, and this effort has met with considerable success. The representative referred to visited Constantinople with his samples. He remained two or three months and disposed of something like $40,000 worth of American goods. He then came to Smyrna with his samples and rented a room. He displayed to the

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merchants certain lines of cotton goods consisting of cabots, drills, calicoes, prints, sheetings, etc.; hardware, tools, files, bits, common shears, locks, knobs, razors, knives, padlocks; leather, lambskins, goatskins, toys, etc. He made arrangements with Avedikian Frères, of Smyrna, to handle his goods, and through them sold from sample some $25,000 worth of American merchandise. The representative remained here but four weeks, but in that time he paved the way for extensive future business and was the means of introducing many new lines of American goods. I learn from him that the chief obstacle in the way of developing American trade is German competition. He declares that in many instances the Germans, to gain business, dispose of large quantities of goods at absolutely cost prices and give long credits. More than this, they make articles which are especially adapted to this market. Their goods have an attractive appearance, but are of inferior construction and quality.

I learn further that Americans seem to be unable to meet English competition in cotton prints (an article of great importance in this country). The English goods are cheaper and conform to the requirements of this market. Local merchants say that cotton prints should be about 28 inches in width, the cheaper qualities 26 to 27 inches and the better qualities 28 to 29 inches. The designs should be devoid of figures of animals; those of men, women, horses, dogs, or birds being especially objectionable. Flowers and vines are desirable in bright, gaudy colors, especially red and yellow or blue and green. In case American manufacturers desire samples for the purpose of studying the designs, quality, colors, widths, etc., used, I shall be glad to forward them.

RUFUS W. LANE,

SMYRNA, *November 27, 1901.* *Consul.*

PHARMACEUTICAL SPECIALTIES IN TURKEY.

Difficulties accompanying the introduction into the interior of Turkey of foreign pharmaceutical preparations render it desirable to call attention to the regulations regarding this class of imports.

In an imperial order issued some time since * concerning the sanitary examination of imports into the Empire, it is stated that the entrance of pharmaceutical specialties of unknown composition, or not meeting the requirements of the French pharmacopœia, is forbidden. An exception, however, is made in the case of such specialties of these two categories as have been approved by an "official academy" (académie officielle), *i. e.*, a chartered medical society.

In order to secure the entrance of an article of this nature, the importer is required to secure an authorization from the Imperial

*ADVANCE SHEETS No. 741; CONSULAR REPORTS No. 239.

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Medical College at Constantinople. The latter requires that the demand for such authorization should be accompanied by a certificate from the "academy" indorsing the article in question, and either a sample of the article or the formula of its composition, where there is a departure from the requirements of the French pharmacopœia. All the documents in the case should be certified by an Ottoman consul in the country of origin.

Experience thus far has shown that the great majority of the documents presented in such cases are either so vague or so improperly certified that the desired permission can not be granted. In most cases, a lengthy correspondence has been without result.

In order to avoid future delays and difficulties of this character, the Turkish medical officials urge strongly that great care should be taken to secure proper Ottoman consular certification for all papers submitted in connection with such importations. Further, they call attention to the requirement that all formulas should be written either in French or in Turkish. Quantities and proportions should be stated with the utmost clearness. The names of constituents employed should be those used in a purely scientific nomenclature, and not those customary in trade. Thus, "acetanilid" should be used, and not "antifebrin;" "iodochloro-oxyquinolin," and not "vioform," etc.—although I am inclined to think that the trade designations, in parentheses, could advantageously follow the purely scientific names.

In general, formulas and labels should be of such a character that they can be easily understood by official examiners possessing a very limited scientific knowledge and practically no familiarity with commercial terms.

It is constantly to be borne in mind that Turkish officials look with exaggerated suspicion upon anything containing poisonous or explosive constituents. The extreme difficulty of securing potassium chlorate in Turkey for such an innocent use as a throat gargle is an example in point.

THOMAS H. NORTON,

HARPUT, *November 23, 1901.* *Consul.*

EMERY STONE IN GREECE AND TURKEY.

The Island of Naxos, embraced in the Greek Archipelago, is situated about 100 miles southeast of the Piræus. Its inhabitants are supported almost entirely by working the emery mines, of which there are two. The Greek Government is the owner and proprietor of these mines, but they are worked exclusively by the natives of the island. The Government has entire charge of the sale of the ore and buys the crude product from the Naxos miners at

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2½ francs (48 cents) per cwt. of 112 pounds. The ore is transported to the neighboring Island of Syra at Government expense and is there sold on the wharf at 106½ francs ($20.55) per French ton of 1,000 kilograms (2,204.6 pounds). Two years ago, an American company attempted to secure a monopoly of the industry and made an offer to the Greek Government to buy 7,000 tons per year for ten years at 106½ francs ($20.55) per ton, but for some reason the arrangement fell through. The total annual consumption of Naxos emery is from 5,000 to 6,500 tons. Of this, the United States takes 1,500 to 2,000 tons and Europe from 4,000 to 5,000 tons. The Naxos mines have never been leased.

Turkey has many emery mines scattered along the coast of the Mediterranean and near-by islands. Those of importance in the neighborhood of Smyrna are at Baltizik, Azizieh, Cosbounar, and Kuluk. Some of the Turkish mines are the property of the Turkish Government, but many of them are owned and operated by local companies and by single individuals. The total annual exports of Smyrna emery stone range from 17,000 to 20,000 tons, of which 10,000 tons go to America and the balance to Europe. The corundum found in the Turkish emery stone varies from 40 to 57 per cent, with the exception of Kuluk stone, which is said to contain about 37 per cent. Corundum in the Naxos stone is reputed to run as high as 60 per cent. The prices of Smyrna stone vary with the quality from $14 to $20 per ton f. o. b. Smyrna. I am creditably informed that no emery can be produced f. o. b. Smyrna for less than $12.50. The Kuluk stone is shipped from the port of Kuluk, and is brought down from the neighboring mountains by camels. This stone is quoted f. o. b. Kuluk at $10 to $12 per ton. Turkish stone is not "treated" after leaving the mine, except by hand picking; it is never washed or crushed.

RUFUS W. LANE,
Consul.

SMYRNA, *December 14, 1901.*

PETROLEUM IN GREECE.

The fact has just been made public that the English Syndicate, which has been endeavoring for some time past to secure the right to develop the supposed oil territory in the Island of Zante, has renewed its negotiations under the new Government. During the previous administration, practically all the arrangements had been completed and awaited only the ratification of the Chamber of Deputies to go into effect. The recent troubles, however (arising over the proposed translation of the gospels into common Greek,

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and culminating in the resignation of the entire ministry), shelved the matter for the time being. It is made public now that the tedious process of securing the new ministerial sanction is again under way, and that the agreement is about to be signed.

What this may mean to Greece depends entirely upon whether petroleum is discovered or not. The field is a very old one, dating back of the time of Herodotus, by whom mention of it was made under the term "naphtha," and that part of the island is known as the Deme Naphthalion. The promising section is the southern part, the low, swampy region where the bogs and marshes exude a substance which has every quality of crude petroleum, and have marked resemblances to the great oil fields of Russia, near the Black Sea. Peasants have been known to set fire to this naphtha, and it has burned continuously for months. Repeated but unsuccessful attempts have been made to find oil in paying quantities, but always by companies or individuals without sufficient means and experience. The English Syndicate, if successful in satisfying the demands of the Greek Government, will spend a great deal of money in developing the territory.

F. W. JACKSON,
Consul.

PATRAS, *December 10, 1901.*

AMERICAN SULPHATE OF COPPER FOR GREECE.

A telegram from Consul Jackson, of Patras, announces that a United States firm has been awarded the contract to supply copper sulphate (500 tons) to the Currant Bank of Greece,* to be used in combating the peronospora.

The conditions governing the bids were given in a report from Mr. Jackson of December 16. In brief, they were:

(1) The quality of the copper sulphate must be 98 to 99 per cent pure, as determined by a chemical analysis certified by the Greek consular officer of the place of shipment, the right being reserved by the bank to subject it to a second analysis upon its receipt.

(2) It is to be packed in barrels made of dried wood with iron hoops, each barrel to have a net weight of 5 cwts. (English), or 560 pounds.

(3) Prices are to be quoted c. i. f. Patras.

(4) The delivery must be made by the 28th of February, 1902, in one or several shipments at the convenience of the seller, but the entire amount to be in hand at the expiration of the above date.

(5) The Currant Bank will deposit the value of the sulphate with one of the banks of this city, to be selected by the seller, to which he will send the bills of

*See ADVANCE SHEETS No. 1236 (January 11, 1902).

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lading, etc. Upon the arrival of the sulphate, the seller will draw upon the bank for the amount.

(6) Every bona fide bidder must deposit 10,000 drachmas ($1,250) in securities satisfactory to the Currant Bank as a guaranty of the fulfillment of the contract.

The consul added:

I have had an interview with the firm which handled the small shipments from America last year, and the managers have expressed their willingness to meet all the conditions here which could not be met by our houses on short notice, such as depositing the 10,000-drachma guaranty, etc., and they have communicated this fact to the consolidated companies in America. This will, I think, enable our firms to enter the field.

TRADE OPENINGS IN MALTA.

COAL AND LIGHTERS.

Valletta, Malta, situated as it is midway between Gibraltar and Port Said, is the most convenient port of call in the Mediterranean for vessels bound east or west needing coal and supplies. During the year 1900 imports of coal at this port amounted to 509,660 tons. The amount for the previous year was 422,073 tons. The greater part of this coal was for supplying ships. Ships calling at this port do not go alongside docks, but anchor with their sterns tied up to the shore. Coal intended for bunker purposes is either unloaded into lighters or else into sheds on the shore, to be again transferred to lighters. When a vessel desires coal, the lighters are towed alongside and there unloaded. In the inner harbor of Valletta, which is the chief port of the Maltese group of islands, a very large fleet of lighters is always kept loaded in readiness for demand. In all, there are about 600 lighters in use for this and other purposes. The type of lighter used is of the blunt bow, square stern variety. They are from 40 to 50 feet in length by from 13 to 15 feet beam. They are constructed to carry from 30 to 35 tons of coal, which is snugly piled upon flush decks and not within the hulls. These lighters are mostly built here of ash wood, brought from Austria. They are lined up to the water line with zinc and tarred paper, a coating of coal tar covering the whole hull. The cost of building them varies from £120 ($583.98) to £140 ($681.31) each. Lighters are also demanded for freight purposes, all goods being landed by these means. Owing to extensive dock-yard works now being carried on and still more extensive operations incidental to the construction of breakwaters off the mouth of this harbor, the demand for lighters will

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soon certainly increase. In conversation with the representative of a prominent firm that uses many lighters, he stated that, in his opinion, if American builders could make lighters in sections, such as are needed here, at reasonable cost, and ship them over ready to be put together in Valletta, there ought to be a good market for them and one that would be steady. With the direct line between New York and Malta, which is now a permanency, the matter of shipment ought to be easy. In his opinion, the growing demand is for a lighter that will carry on deck from 50 to 100 tons of coal. Wood of all kinds is expensive here, as there are no forests to draw from and, in fact, but few trees grown. I believe that if the matter is at once taken up by our builders, good results are sure to follow. The following firms located at Valletta are likely to be interested in the subject: Societa Riunite di Pontons e Lancie, T. G. Micallef & Co., T. C. Smith & Co., O. F. Gollcher & Co., Union Steam Launch Company, and E. T. Agius & Co.

GASOLINE.

I am informed on the best of authority that the representative of the Standard Oil Company here has just secured from the local government a concession to erect a building for the storage of gasoline, and that operations will be begun at once. Up to within a few months, the import of gasoline has been prohibited; recently, however, it was decided to admit it under certain conditions. The following is an abstract of the new regulations on the subject, issued July 22, 1901:

Storage of gasoline for private consumption.

1. Gasoline may be stored, in quantities not exceeding 2 gallons, provided the following conditions are strictly adhered to, viz:

(*a*) That it shall not be kept, used, or conveyed except in metal vessels so substantially constructed that, in the opinion of the superintendent of police, they may not be liable, except under circumstances of gross negligence or extraordinary accident, to be broken or become defective or insecure.

(*b*) That every such vessel shall, in the opinion of the superintendent of police, be so constructed and maintained that no leakage, whether of liquid or vapor, can take place therefrom.

(*c*) That every such vessel shall bear the words "Gasoline—highly inflammable" legibly and indelibly stamped or marked thereon, or on a metallic or enameled label attached thereto, and shall be of a capacity not exceeding 2 gallons.

(*d*) That before repairs are done to any such vessel, it shall, as far as practicable, be cleaned by the removal of all gasoline and of all dangerous vapors derived from the same.

(*e*) That the filling or replenishing of such vessel with gasoline shall not be carried on, nor shall the contents of any such vessel be exposed in the presence of fire or artificial light, except a light of such construction, position, or character as not to be liable to ignite any inflammable vapor arising from such spirit, and no

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artificial light shall be brought within dangerous proximity of the place where any vessel containing gasoline is being kept.

2. All gasoline kept in contravention of the preceding paragraph shall, together with the vessel containing the same, be forfeited; and the occupier of the place in which such gasoline is so kept shall be liable to the punishments for contraventions.

Storage for gasoline for sale.

3. It is prohibited to keep more than 2 gallons of gasoline without a license issued by the superintendent of police.

4. The license referred to in the preceding paragraph shall not be granted when the quantity of gasoline to be stored exceeds 60 gallons, nor unless the place in which it is to be stored is fireproof, is distant 20 feet from a house, and is securely walled in, to the satisfaction of the superintendent of police, so as to exclude the public for a zone of 20 feet round the store.

5. When the quantity of gasoline does not exceed 25 gallons and is not less than 2 gallons, the license shall not be granted unless the place is fireproof and is 20 feet distant from a house.

6. No portion of a storehouse shall be used as, or be connected with, a dwelling or a place where persons assemble. Where a storehouse forms part of, or is attached to, another building, and where the intervening floor or partition is of an unsubstantial or highly inflammable character, or has an opening therein, the whole of the building shall be deemed to be the storehouse.

7. A storehouse shall have a separate entrance from the open air distinct from that of any dwelling or building in which persons assemble, and shall be thoroughly ventilated, to the satisfaction of the superintendent of police.

8. Gasoline stored under the provisions of these regulations should be put in a tank or in cans, which should be kept in a small brick inclosure or room, across the entrance of which a sill is to be constructed; and these arrangements are to be carried out to the satisfaction of the superintendent of police. This sill must be of such a height as would prevent the outflow of any spirit in case by some accident it should be able to escape from the storage tank, as, for instance, would happen if the tap of the storage tank had been accidentally left turned on.

9. Under no circumstances is a naked light to be brought into the store where gasoline is kept.

10. The storehouse shall be kept under lock and key, and no one, except the responsible person, is to have access to it.

It will at once be seen that this change in regulations opens up a number of new fields for enterprise. There are but two automobiles here and two launches, the gasoline by which they are run having been brought in under special arrangement with the government. To secure gasoline in any appreciable quantities has been almost impossible. Otherwise, many gasoline lamps and stoves would have found a sale here. The future is likely to see a demand for these goods. In this connection, I have been asked by a gentleman of large means to provide him with addresses of American firms manufacturing automobiles run by gasoline. He states that he is desirous of securing several carriages large enough to be used as omnibuses, his intention being to start lines for carrying freight and passengers to different parts of Malta. He intends to begin in a

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small way and to enlarge his outfit as demands of patronage require. He will want vehicles that are good hill climbers, as there are many steep hills here. He also desires to secure several gasoline ambulances, such as are in use in New York City.

I believe that automobile omnibuses will prove the solution of the rapid-transit question at Malta. For several years, there has been a demand for tramways or other means of transit; but, owing to the narrow streets of Valletta, into which city the various branches would have to converge, and the conditions imposed by the local government, Malta has been obliged to depend upon the native "carozzina." Spasmodic attempts have been made from time to time to gain a franchise from the government, but matters have never gone beyond paper. In all franchises, the local government insists upon the tram line entering the city by means of tunnels from the suburbs. This means too great expense. In the case of a line of motor vehicles, it is quite another thing. No rails nor tunnels would be necessary, and the wagons would stand upon the same footing in the streets of Valletta and elsewhere as the ordinary native carriage. A company for the purpose of public passenger service is sure to be organized soon, and, as I have stated, I believe gasoline-motor vehicles will be used. I will not here give the name and address of the gentleman interested, but will say that correspondence or catalogues addressed to me will be promptly handed to him. He informs me he would prefer, if he can get them, some good secondhand omnibuses—otherwise, new ones. I trust that prompt attention will be given to this matter by American firms interested.

BOOTS AND SHOES.

I have been asked by several American firms as to the chances here for our shoes. I am studying the market, and hope soon to be able to provide interesting statistics, etc. American shoes have never been sold in Malta. Nearly everybody has his shoes made to order, at a cost of from $2.50 to $5. The shoes are of good stock, but lack the fit and style of our American foot wear. One large store here contemplates adding a boot and shoe department, with men's, women's, and children's goods. I will hand this firm any catalogues or price lists that may be sent, but senders should not forget to give export prices, free on board at New York.

FLOUR AND WHEAT.

Sales of American flour have lately increased. To a great extent, this has been due to direct dealing with the millers. Several times, I have been interviewed by local buyers about to relinquish American flour on account of middlemen's profits adding to cost

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here, and I have been fortunate in being able to give such advice as has led not only to retention of this trade, but to the end desired by the local purchasers. Lately, on account of plague existing at certain English ports, all flour arriving from such ports has, by port regulations, been taken to the local quarantine station and there transferred to other bags. This has entailed quite an additional expense and has seriously reduced ultimate profits. Taking advantage of this state of affairs, several merchants here who had ordered flour from the United States cabled for direct shipments—in some cases, doubling their orders. Flour from the United States, of course, was not subjected to quarantine. A direct steamer is now on its way from New York with a record cargo. England to-day is our greatest competitor in flour at Malta.

Not much has been done lately in the matter of wheat, but the demand has again started, large orders have been sent, and the goods are expected in another month. During the present winter, I hope to see a revival of last year's demand for wheat.

CIDER AND SIRUPS.

The firm of Atkinson & Co., Strada Zaccaria, Valletta, Malta, is desirous of securing quantities of American cider in bulk. This is a firm of bottlers, doing an extensive business. About a year ago, I gave them the addresses of several firms in the United States manufacturing sarsaparilla sirup for bottling purposes. The firm wrote to the parties whose names I had given, but from that day to this not even an acknowledgment has been received. If all American firms treated correspondence in this manner, there would be small encouragement for members of the consular service to work for the increase of our trade. I trust that some American manufacturer will correspond with Atkinson & Co., as the firm still desires to secure this and other sirups.

VALUE OF CONSULAR REPORTS.

It is somewhat surprising to see the wide publicity given by our CONSULAR REPORTS. Some months ago I sent a report upon "refrigerators."* Since then, I have received newspaper clippings referring to this report from not only the United States, but from England, France, Germany, Switzerland, and Austria. In the above-mentioned report, I gave the addresses of parties here likely to be interested in buying refrigerators, and to-day the desks of most of them are covered with refrigerator catalogues in various languages.

*ADVANCE SHEETS No. 1130; CONSULAR REPORTS No. 254.

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PROPOSED NEW BREAKWATER.

It is proposed to construct new breakwaters at the entrance of Grand Harbor, Valletta. Active work will be begun during the coming year, and three years will probably be consumed before the enterprise is completed. A description of the work will be submitted after the present surveys have been completed.

JOHN H. GROUT,
Consul.

VALLETTA, *December 3, 1901.*

OPENINGS FOR AMERICAN GOODS IN MALTA.

As an indication of the increasing trade in American goods here, I am desired by Messrs. Antonio Ellul & Co., of 258 Strada street, Ursola, Valletta, Malta, to furnish them with a list of names of American houses dealing in clocks, soap (both for domestic and harness purposes), butter and butterine, locks (of all kinds) and general hardware; preserved meats, fruits, and fish; sugar-cured hams; paper stock, including wrapping and printing, and stationery; axle oils, fishhooks and fishing tackle, brushes and brooms of all kinds, and cutlery of various classes. This concern has just decided to make a specialty of American goods. For many years, one of its members was in the banking business here, and it now holds a contract for supplying the local government with printing paper.

I would suggest that our manufacturers interested in these lines of goods should send to the above address illustrated catalogues, together with lowest export price lists, making them invariably f. o. b. New York. Where possible, I would advise sending samples. Buyers of American goods here are giving increasing preference in the matter of shipment to the direct line of steamers between New York and Malta, and to this fact is due not a little of the enlarged local demand. In the days when there was no direct line and transshipment was obligatory, American articles were hard to find. A direct-line steamer, now about due from New York, is bringing a record cargo. If several lines of goods which still reach Malta by way of English, German, and Italian ports of transshipment could come by the direct route, it would have the effect of still further stimulating the demand for our products.

JOHN H. GROUT,
Consul.

MALTA, *December 14, 1901.*

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OCEAN TRANSPORTATION FOR COAL.

I am asked to supply definite information on the subject of heavy transportation of coal from Great Britain and America to France, for the purpose of demonstrating the propriety of building special coal-carrying steamers. In the actual condition of the carrying trade, the complaint of all owners is that the business is being done on unprofitable terms, if not with absolute loss to themselves; 5s. 6d. (equal to 7 francs, or $1.35) per ton from Cardiff to this city is at this writing a high price. More charters are being written at $1.20, and they hover between the two extremes. From Baltimore or Newport News to Marseilles the present price is fairly firm at 9s. ($2.25), and the difference between these rates is $1.10. Hardly more than a year ago, the difference between coal rates from Baltimore and from Cardiff to Marseilles ranged from $2 to $2.30. While the depreciation in freight rates is very generally explained by the release of tonnage heretofore required by the British Government for war operations, the superabundance of new tonnage and the large number of ships contracted for and in process of construction, the change in the relative difference between the rates from Cardiff and Baltimore to the Mediterranean is attributed to special conditions. It is pretended that a very large number of steamers have recently gone to the United States for grain and cotton which have not been offered for shipment, and that these ships have therefore been forced to take what they could get in the way of cargo, upon any terms, with the result that the relative difference between American and British coaling ports has been hammered down fully 50 per cent. My informants believe that when this large quantity of tonnage now in American waters returns to this side, it will engage in whatever may be offered in Europe at the time, in preference to repeating the operation of carrying coal at 9s.; since, while there may be no money in bringing British coals into the Mediterranean for about 5s., there is always an opportunity to go from Marseilles to the Black Sea or to Spanish ports, where grain or iron ore may be picked up for delivery in England, while there is substantially nothing in the way of cargo to be taken back to New York.

A steamer of 3,000 tons cargo capacity can to-day load at Cardiff with navigation coal of the type usually required in this city at 12s. ($2.92) a ton. Assuming the owner to have contracted for payment at the rate of 7 francs ($1.35) per ton for freight (and this is to-day the very outside price), he must calculate upon expenditures amounting in all to 5.30 francs ($1.02) per ton before he can begin to take into consideration depreciation and profit. The official charges would

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perhaps vary somewhat from the following figures; but experience shows that upon a vessel of 3,000 tons the items of expense per ton, amounting to 5.30 francs, actually average as below. Assuming that the local charges at Baltimore would be the same as at Cardiff, and making due allowance for the increased length of the voyage, I establish the comparative cost per ton of delivering 3,000 tons of coal at Marseilles from either Cardiff or Baltimore as follows:

Description.	Cardiff.		Baltimore.	
	Francs.		*Francs.*	
Trimming at Cardiff and port charges	0.70	$0.135	0.70	$0.135
Port charges at Marseilles	.60	1.15	.60	.115
Discharging at Marseilles	1.25	.241	1.25	.241
Deduction on freight (a common practice in lieu of re-weighing)	.50	.096	.50	.096
Fuel for voyage (10 tons per day, costing 12s. at Cardiff or 8s. at Baltimore)*	.50	.096	.65	.125
Wages and ship general expenses, at £10 per day (about)	1.75	.337	2.65	.511
Total cost per ton	5.30	1.02	6.35	1.22

* Steamers from Cardiff require three days for loading, ten days for the voyage, five days for discharging, and two days allowance for Sundays and holidays—twenty days in all; steamers from Baltimore require twenty days, instead of ten, for the voyage—thirty in all.

Thus, the owner shipping from Cardiff may look for depreciation, repairs, and net profits from the difference between 5.30 francs and an extreme of, say, 7 francs per ton, while the owner shipping from Baltimore must look for his from the difference between 6.35 francs and 11.25 francs—the apparent discrepancy being very much to the advantage of the steamer from Baltimore. But it requires one-third more time to ship from Baltimore, and the prospect of return cargo, moderately certain in the first case, is equally remote in the second. It will be noted that in practice as much time is required for loading and discharging cargo from Cardiff as the voyage, properly speaking, demands, and it may be assumed that one of the first efforts of American navigation companies will be to reduce this extended period. Demurrage charges in this port are practically unknown, and discharge facilities are at present limited to 600 tons per day.

The market becomes a more valuable one every year, the tendency of the established lines being to frequent this port for the purpose of coaling, the total annual requirements of the port having doubled within the last three or four years. There is also a prospect of supplying the Swiss market from this port, and to that end the Paris, Lyons, and Mediterranean Railway Company has prepared a tariff reducing the rate from Marseilles to Geneva from 14 francs ($2.70) to 11.85 francs ($2.28) per ton. This tariff requires the sanction of the Minister of Commerce before it can become effective, and for some unknown reason this sanction has not yet been obtained.

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If the lower rate is adopted, it is moderately certain that a very considerable interior business will be done in consequence.

Except for the troublesome question of return cargo, it would be easy to assert that the American voyage, including delays for loading and discharging, being one-third longer than the Cardiff voyage, requires in fairness a rate only one-third more than that of the latter, the longer time at sea being perhaps overcome by the advantage of cheaper fuel. In practice, the American exporter is at present paying more than this one-third, and there never was fair ground for the former difference, which ranged from 7s. to 12s. ($1.70 to $2.92). Whether general rates be high or low, something like 1,000,000 tons of foreign coal must be laid down annually in Marseilles, and the fluctuation in the relative rate from Cardiff or Baltimore will largely determine the proportion of American trade in this region.

Standard navigation coal from Cardiff is to-day selling at 22s. ($5.34) in Marseilles. It costs 12s. ($2.92) at Cardiff, or 13s. ($3.16) with the export tax included. American competing coals are being sold here at a discount of 1s. 6d. (36 cents). Experience and prejudice, or whatever the controlling causes have been, have set this margin as a measure of comparative quality. American coal at the seaboard, then, must be sold low enough to cover the higher freight charge and a persistent prejudice because of quality. The items average now from 4s. to 5s. In other words, it must be sold, quality for quality, at f. o. b. prices dangerously near 8s., or perhaps 9s. ($1.94 or $2.19), and every cent under these figures represents the advantage which our dealers have in the Mediterranean market at present.

We have sold 184,797 tons of American coal in Marseilles during eleven months of 1901, against 941,171 tons of British coal. It gave entire satisfaction. I have before me a letter from Worms & Co., the heaviest single importers, in which they say:

> Our importations of American coal during the year will approximate 100,000 tons. The principal companies to which we have sold it regularly are the Peninsular and Oriental Steamship Company, the British India Steam Navigation Company, the Nippon Yushen Kaisha Steamship Company, and the Messageries Maritimes Steamship Company. They have all declared themselves very well satisfied with the quality of the fuel.

These are the largest steamship companies doing business in the Mediterranean. During the year, local selling prices went to pieces, and a dealers' war has prevailed until a week or two ago. This has involved the making of many contracts for next year's delivery at prices certain to net a loss of from 30 to 75 cents per ton, unless market conditions change materially. One dealer has figured out

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for me about 500,000 tons already contracted for, and seems to think that these contracts will tend to diminish American importations next year. I do not think so. The Paris, Lyons, and Mediterranean Railway Company, which requires 300,000 tons, has not yet closed, I understand. All this is guesswork, to some extent. There is no war either for or against American coal. It has demonstrated its excellence, and it will come in when the price permits it. Meantime, the war between the dealers has ceased, and they are taking no new contracts at less than 22s. ($5.34). American anthracite in the meantime has invaded the market and would control it were not the fuel itself so hard to secure. With American mines taxed to supply domestic demands, it may be said that the European is at present more interested in American competition here than is the American himself.

As the case stands, dependent as we are upon foreign ships, we are in the Mediterranean coal trade, and we can probably remain, but there is always an "if." If, as at the height of the war excitement, we must again pay 21s. ($5.10) while Cardiff pays but 10s. or 12s. ($2.43 or $2.91) it is obvious that we can not cut our f. o. b. prices to that extent. That we could pay that enormous freight at one time was only because the f. o. b. prices at Cardiff were well over twice what they are to-day. Thus, while reasonable business policies encourage faith in the permanency of our Mediterranean coal trade under existing conditions, the mere memory of freight rates once paid is a standing menace.

I have always contended, and still maintain, that our commerce in coal can be guaranteed only by the land transportation lines engaging in the ocean carrying trade. Even a very small fleet of colliers controlled by the coal roads would provide a steadying influence of inestimable value. It may be doubted whether the owners of colliers are losing anything to-day, in spite of their cry of distress. They have been enjoying abnormally high prices, and the years of plenty have been followed by a year of famine. Business is dull everywhere except in the United States, and even there the freight furnishers are refusing to ship, hoping for better times abroad. In shipping circles, a gradual stiffening is anticipated soon. As an independent proposition, the creation of a fleet of coal carriers—particularly if they should be of modern type, capable of loading and discharging promptly—seems favorable, and, contemplated as an enterprise of one of the seaboard coal roads, it is not only attractive, but almost an imperative requirement. The foreign market is the only thing that will guard the mining companies from stagnation, in the event of dull domestic trade. The threatened through bill of lading from the mine to the consumer abroad is one of those

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moral influences which are to-day holding down the level of ocean freight rates. A gentleman largely interested in foreign-transport enterprise tells me that every Atlantic carrying company is shortening sail with a view to this contingency. He said:

The American railroads are so important in themselves and drain such vast producing areas, thus contributing the bulk of east-bound freight, that they can not afford to remain in any sense dependent upon foreign navigation companies to take these goods to market. Whether they buy us out and run our ships for their own account or secure legislation which will lead to the construction of a purely American fleet, it amounts to the same thing in the end. The railway companies can stand hard times as well as the British shipowner, and when the good times come their stockholders will pocket the profits, instead of ours. The through bill of lading would simply leave us without anything to stand upon, in so far as American trade is concerned.

ROBERT P. SKINNER,
Consul-General.

MARSEILLES, *December 12, 1901.*

DEMAND FOR AMERICAN GAS COAL IN AUSTRIA.

There is an increasing demand in Austria for a high-grade gas coal. Strange as it may seem, the production of artificial gas is advancing in this country. This is due to two different causes: First, the Auer incandescent gas-burner, an Austrian invention which is in general use here, has greatly increased the efficiency of gaslight and has in a measure reestablished the popularity of gas as an illuminant; second, the relentless war which is being waged against the smoke nuisance in many cities has led a large portion of the smaller establishments to employ gas as their motive power. The increased consumption of gas has made the erection of many new works necessary, especially in the larger cities, and has also greatly quickened the interest of gas experts in improved processes of production, as well as in new and more productive kinds of raw material.

In the past, the bulk of the gas coal consumed in southern Austria has been imported from England. The present price of this coal f. o. b. Trieste is about 19s. ($4.62) per ton, and the average quantity of gas produced from it is from 29 to 30 cubic meters per quintal, or about 10,500 cubic feet per ton. The total quantity of gas coal consumed in this consular district is probably about 300,000 tons per annum.

In a recent number of a German gas journal, the statement appeared that at a test made in London an American coal had yielded 15,900 cubic feet of gas per ton. Such a coal, if it really exists, would be worth here not less than $6 a ton.

Mr. Emil von Malberg, manager of the Eggenburg Gas Works at

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Graz (250 miles north of Trieste), recently applied to me for the addresses of American exporters of gas coal, and, referring to the alleged London test, said:

The statement is astounding. If it be true, it would pay even in Graz to use American coal.

I should be pleased to receive from our coal producers, for distribution among interested parties in my district, analyses of their coals, as well as statements of well-authenticated gas tests, where such tests have been made.

That with properly directed efforts a good market can be established here for superior grades of American gas coal, I have not the least doubt.

FREDK. W. HOSSFELD,

TRIESTE, *December 4, 1901.* *Consul.*

COAL IN FRANCE.

AMERICAN COAL IN NORTHERN FRANCE.

For its entrance into northern France, American coal seems destined soon to be independent of abnormal conditions. The present depressed state of the continental metallurgic industry offsets the advantages offered by the Transvaal war and the miners' disturbance. In southern France, the importation of American coal has passed the experimental stage; and, notwithstanding the nearness of English, Belgian, and German coal fields, American coal has begun to filter into northern France at different points. Two weeks ago, for the first time in the history of this port, a vessel direct from Philadelphia unloaded a cargo on the Rouen quays. If this infiltration is successfully begun with the employment of foreign shipping, it can only be a matter of time when the United States, with her own vessels, will supply most, if not all, of the French deficiency.

FRENCH COAL CONSUMPTION.*

France consumes annually about 45,500,000 tons of coal, of which she produces nearly 75 per cent. Of the 45,228,000 tons consumed in 1899, 13,370,000 tons came from abroad, as follows:

Origin.	Tons.	Per cent.
England	6,720,000	50.3
Belgium	4,752,000	35.5
Germany	1,871,000	14
Other countries	27,000	.2

*Accompanying Consul Haynes' report were charts showing the geographical distribution of France's coal consumption. These charts, which were supplied by the American Coal and Shipping Agency, Paris, are filed in the Bureau of Foreign Commerce.

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Of the 13,416,700 tons imported last year, England furnished 7,761,000 tons; Belgium, 4,690,000 tons; Germany, 804,700 tons; and the United States, 161,000 tons.

The Departments bordering Belgium and Germany are naturally the greatest importers of Belgian and German coal, while English coal is consumed mostly by the Departments bordering the British Channel and the ocean. The Department in which this consulate is situated—Seine-Inférieure—is the greatest consumer of English coal, using 1,074,000 tons, which is 76 per cent of its total consumption. Meurthe-et-Moselle consumes 1,471,400 tons of German coal, 36 per cent of the total employed. The greatest consumer of Belgian coal is the Nord—1,088,500 tons, or 16 per cent of its total consumption. All the coal for Algeria goes from England.

In French industries, mining consumes 3,002,000 tons; metallurgy, 7,998,000 tons; and the railways, 5,404,000 tons. This is more than one-third of the total consumption. The amount used by the railways is as follows: Paris-Lyon-Méditerranée, 1,417,000 tons; Nord, 934,000 tons; Ouest, 721,000 tons; Orléans, 720,000 tons; Est, 692,000 tons; Midi, 334,000 tons; Etat, 214,000 tons; divers, 43,500 tons.

England's total exportation of coal to France for the first seven months of 1901 (4,593,318 tons) was much less than the quantity exported during the same period of 1900 (4,936,428 tons), despite the fact that the Pas-de-Calais and the Nord during the first semester of this year produced 346,856 tons less than during the corresponding period of last year

FRENCH PRODUCTION.

From the latest official statistics, France produces 32,863,000 tons of coal, valued at 407,546,000 francs ($78,656,378) at the pit's mouth. It comes from 52 basins, distributed in 59 Departments, the principal Departments being the following: Pas-de-Calais, with 14,000,000 tons; the Nord and the Loire, 5,000,000 tons each; the Saône-et-Loire, the Gard, and the Aveyron, over 1,000,000 tons each.

Of the total production, 1,645,000 tons, or 5 per cent, is anthracite. This comes principally from the Departments of the Nord, Isère, Saône-et-Loire, and Loire. Lignite amounts to 607,000 tons, being 1.9 per cent, five-sixths of which comes from Bouches-du-Rhône. The production of peat reaches nearly 100,000 tons, of which the Department of Somme gives 32,000 tons; Loire-Inférieure, 13,000 tons; Aisne, 10,000 tons; Isère, 8,500 tons; Pas-de-Calais, 7,000 tons; and Doubs, 6,000 tons.

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Altogether there are 292 exploited concessions, 245 of which furnish bituminous or anthracite and 47 lignite coal.

The steam engines employed number 2,619, with a total horsepower of 170,000. Of these, 320 engines, with 16,000 horsepower, are used for airing.

The deepest mines are in the Gard, one mine being 2,657 feet in depth; one in the Haute-Loire is 2,610 feet deep and another 1,939 feet. In the Loire there are four, with depths of 2,550, 2,133, 2,060, and 1,988 feet, respectively.

LABOR IN FRENCH COAL MINES.

A general strike was threatened the 1st of this month (November, 1901). Of the 162,000 miners in France, 135,000 are over 18 years old, which age is requisite to vote upon the question of a general strike. Of these, 82,000 abstained from voting, and of the remaining 53,000, there were approximately 40,000 who voted for the strike and 13,000 against. With little interruption, however, work continues, though the miners imported arms and the Government sent armed forces to quell possible disturbances. Such is the present situation.

The eight-hour day is the principal demand. The working-day is divided into two parts—one from 5 a. m. to 1.30 p. m. and the other from 3 p. m. to 11.30 p. m. The first, much the more important, is devoted to the productive part of the work—the actual extraction of the coal; the second, to preparing the track for its conveyance and keeping up the ordinary repairs. These two shifts have a total duration of eight and one-half hours, but the actual time of work is much less. The miners insist that the eight-hour day should begin when they descend, and that the time for remounting also should be counted in. It is said that when a workman has descended to the bottom of the shaft, he is at least twenty minutes distant from his cutting, and of course the same journey must be made when quitting work. About 9 a. m. in the first shift and about 7 p. m. in the second, the workman stops for "briquet," a meal lasting about twenty minutes. It may be said, then, that the actual work is reduced to seven and one-half hours at most. Should the miners eventually win, as they have won other demands in the past, it will very likely reduce the working-day in the Nord and Pas-de-Calais one and one-fourth hours; in the Loire, one and one-half to one and three-fourths hours; and in the Gard, two and one-fourth to two and one-half hours—a reduction which would diminish the yearly output of France some 7,000,000 or 8,000,000 tons; quite enough to disturb the market perceptibly.

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AMERICAN VS. ENGLISH COAL.

One of the greatest objections urged against American coal in France is its friability. This has been the subject of a lengthy article in a recent number of L'Echo des Mines et de la Metallurgie. In answer to the charge Mr. Sullivan-Alexander, of the American Coal and Shipping Agency, contributed a letter, at the request of the editor, admitting that American coal in general was more friable than the English product, but insisting that some American coal, such as the Pocahontas, the Westmoreland, etc., rivaled the very best Cardiff steam coal. He further gave reasons why the American article arriving in Europe was more broken than that from England—the extraction by machinery instead of chiefly by hand; the employment of dynamite and powder; the closeness to the surface of American coals, thus rendered more friable by atmospheric action; the American custom of dealing in run-of-the-mine, partly because briquettes are not employed to utilize the by-product of screening.

Mr. Henri Bordes, of Bordeaux, who runs a Bordeaux-New York line of steamers, says in the same journal that he has always considered quality and caloric power before aspect. "For my steamers in the service between Bordeaux and New York," he adds, "I have burned Cardiff in going and American coal in returning; almost always the American product has been considered equal to the best Cardiff. Good American coal gives 4 to 5 per cent of ashes; the best Cardiff, 7 to 9 per cent. This consideration is causing many to prefer the American coal to the Cardiff."

There is no doubt that most of the objections to the American product are due to ignorance of its usage. The Frenchman is accustomed to the screened coal, and does not know how to handle the through-and-through article—a disadvantage that time alone will overcome.

IMPORTERS OF COAL.

Mr. J. J. Petit, a large importer of German and English coal at Antwerp and Verviers, has written to this consulate asking to be put into communication with American exporters, adding that he was confident the time was ripe for the marketing of American coal in northern Europe. Letters will reach him addressed to 7 rue des Messieurs, Verviers, Belgium; and Mr. A. Brenguier, of Bourges, Cher, France, has written a letter of the same tenor.

The principal Rouen importers are:

Breton et Cie., 3 avenue Mont-Riboudet.
Compagnie des Charbons, 14 quai du Havre.
Compagnie des Charbonnages, 19 rue Seine.
Compagnie des Mines de Vicoigne et de Nocux, 5 rue Centrale.

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Compagnie Européenne du Gaz, 62 rue Centrale.
F. Depeaux fils, 25 boulevard Cauchoise
Jacquinot-Decaux, 114 avenue Mont-Riboudet.
Maiu Colliery Compagnie, Delafosse, agent, 42 quai du Mont-Riboudet.
Marchal et Henot, 3 quai Cav.-de-la-Salle.

The principal importers at Dieppe are:

Auvray, 58 quai Duquesne.
Leblanc, Charlemaine et Cie., 2 rue Blainville.
Robb frères, 16 quai de Lille.
Société de Charbons et Briquettes de Dieppe.

THORNWELL HAYNES,
ROUEN, *November 28, 1901.* *Consul.*

AMERICAN COAL IN GERMANY.

Toward the end of September last, three prominent coal merchants, one from Hamburg and two from Berlin, went to the United States to examine systematically the conditions of coal supply and transportation, and, if practicable, to make contracts for a supply of certain qualities for the German market. Of the two Berliners, one is still in the United States, seeking to organize an international company for the export of both anthracite and bituminous coals to various European ports, especially to those in the Mediterranean, where it is believed that American soft coals for steaming and manufacturing purposes have a secure and promising future.

The other merchant from Berlin, who is well known here as the principal local importer of anthracite coals, has returned and given for publication a highly interesting statement of his experiences in the United States and his estimate of the general situation as it relates to the importation of American coals into Germany. Under present conditions of marine freight and local demand and supply, he sees no immediate probability of any large import of American bituminous coal into this country. The only qualities which can now be obtained at the American seaboard in large quantities and at prices sufficiently low to justify their export are, says Mr. Schulze, so soft and friable that they crumble and crush in transit to such an extent that they are, when landed, inferior in grade and caloric value to Westphalian coals of a corresponding cost. American cannel and western Pennsylvania block coals are, in his opinion, of high quality and admirably adapted to the German market, but they are so scarce and expensive at home that he saw no opportunity to do business with them. At the present low rates of freight, some cheap

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and inferior grades of American soft coal have been experimentally imported to Hamburg for as low a figure as 15½s. ($3.77) per ton, at which price, says Mr. Schulze, Westphalian coals of a better grade are able to compete, and he thereupon hastens to reassure the German coal-producing syndicates that their fears of a deluge of steam and factory coals from the United States are for the present groundless.

Totally different, in his opinion, is the situation with regard to anthracite, the imported supply of which for Germany has hitherto been derived wholly from Great Britain. But the continued strikes and numerous miners' holidays in the Welsh coal districts, the present export duty, and frequent interruptions and delays in delivery have made German importers ready and eager to obtain a new source of supply. Mr. Schulze reports that he visited the anthracite mines of Pennsylvania and was amazed at the thickness of the veins, the ease and cheapness with which it is mined, the unlimited supply, and the effectiveness of the machinery and methods employed for breaking, screening, washing, and grading hard coal for various uses. As a proof of his confidence in the future of this trade, he has purchased 10,000 tons of American anthracite for immediate importation into Berlin, 30,000 tons for delivery in March and April, and expects to import on his own account not less than 100,000 tons during the course of next year. Norway and Sweden, Denmark, Holland, and even London will, in the opinion of this expert, gradually turn more and more to the United States as the source of their main supplies of anthracite. The future dimensions of the trade will depend wholly upon the disposition of American hard-coal operators to foster and develop it.

Here, as in the United States, anthracite coal for domestic consumption is a luxury the use of which is confined mainly to the well-to-do classes. The grates and stoves in which it is burned differ materially from those most used in our country, so that it will probably be found advantageous to export hard coal in lumps as it comes from the mine, to be broken, screened, and graded on this side into the sizes required by European markets. It is also stated that anthracite coal intended for household consumption in Germany should not be washed.

Whether or not the views of this merchant concerning the availability of American soft coal for German consumption are well founded and conclusive, opinions here differ. The paramount fact in the public mind is that notwithstanding the continued protests and present distress of many German industries, their narrowing output and enforced discharge of workmen, the German coal syndicates have persisted in maintaining practically the same prices which

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they received for coal during the flush activity of 1899 and 1900. One can hardly take up a Berlin newspaper without finding a report of some meeting of manufacturers or other class of fuel consumers to protest against the artificially maintained prices of coal and coke. Silesian coal of ordinary quality now retails at Berlin coal yards for 1.60 marks per centner delivered, which is equal to $7.61 per metric ton of 2,204 pounds. Ordinary Silesian steam coal costs in carload lots 24.40 marks ($5.80) per ton, delivered in this city. As the river freight on coal from Hamburg to Berlin is about 3 marks (72 cents) per ton, it would seem that if American or other foreign soft coal can be landed at Hamburg for any price approaching 16 marks ($3.80) per ton, there ought to be a chance for it in the retail market of the German capital.

FRANK H. MASON,
Consul-General.

BERLIN, *December 3, 1901.*

Some time since, it was mentioned in the press that several prominent German coal dealers were visiting the United States, with the object of arranging for important purchases of coal. Since the return of one of these parties—Gustav Schulze, one of the largest dealers in Berlin—he has been interviewed regarding the result of his trip. He thinks that the talk of America flooding Germany with coal shows ignorance of the situation. American soft coal can not yet, even with the present low ocean rates, be introduced here profitably. Just now, soft coal costs 15½s. ($3.77) per ton in Hamburg, and is of two sorts, both so soft that they can not stand transportation. The Westphalian soft coal is both better and cheaper than the American. At present, American soft coal can be imported only on the Mediterranean with profit, and there, also, everything depends on the freight rates.

The import of anthracite coal from America is quite another matter. Mr. Schulze said:

I have just purchased 10,000 tons, which will reach Hamburg shortly, and have arranged for 30,000 tons more for March and April. I shall probably take 100,000 tons next year. The freight, however, must not go above 7s. ($1.70) per ton, or no business can be done. I have the coal sent whole and break it up at my works in Hamburg. In the importation of anthracite coal, England is the only competitor with America.

ERNEST A. MAN,
Consul.

BRESLAU, *November 27, 1901.*

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PROPOSED GERMAN DUTY ON SHOES.

The proposed German customs tariff* now under discussion in the Imperial Parliament includes, under the heading "Shoes made from leather" (Schuhe aus Leder), all kinds of shoes (also boots and slippers) the upper parts of which are made from leather; it does not matter of what material the soles are made. Shoes with upper parts made of woven goods or felt, to which leather or other soles are sewed or nailed, are mentioned under subsection 5*j*. In the present customs tariff, a difference is made between coarse and fine shoe ware, the former paying at the rate of 50 marks ($11.90) and the latter at 70 marks ($16.66) or 65 marks ($15.47), as arranged by treaty. Coarse shoe ware includes "shoes of undyed, blackened, or tanned leather (without any further preparation); furthermore, shoes from gray packing, canvas, sailcloth, raw linen, raw ticking or huckaback, or coarse unprinted wax cloth." Under fine shoe ware are included "nice shoes of all kinds, manufactured from leather or in connection therewith, particularly boots of other leather than that mentioned; also, shoes made from fine wax cloth, wax muslin, or wax taffeta; furthermore, shoes made from other woven goods than those mentioned under raw shoe ware or made from cordage, felt, or list, so far as they are connected with leather, leather cloth, caoutchouc, or wood."

In the proposed customs tariff, the distinction between coarse and fine shoes, as drawn at present, will not be applied, as experience has taught the German officials that it does not guarantee a sure classification of goods; so that fine shoes may occasionally be entered at the low, and cheap ones at the high, rate of duty.

With the exception of leather shoes with wooden soles, a special scale of duties, depending upon weight, has been prepared for leather shoes of all kinds. Leather shoes weighing more than 1,200 grams (2 pounds 10.3 ounces) a pair shall be entered at a lower rate than those weighing between 1,200 and 600 grams (2 pounds 10.3 ounces and 1 pound 5.1 ounces) a pair; and, again, those weighing 600 grams (1 pound 5.1 ounces) a pair or less pay a considerably higher rate than the ones just mentioned. The idea that, as a rule, light-weight shoes are more valuable than heavy ones, and that coarse shoes are heavier than fine ones, has occasioned this new scale of rates. It is true, there are certain kinds of fine leather shoes which weigh even as much as 1,500 grams (3 pounds 4.9 ounces) and more—for instance, hunting boots—but if for the sake of such

*See ADVANCE SHEETS No. 1133; CONSULAR REPORTS No. 254.

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exceptions the limit of weight were raised as high as 1,200 to 1,500 grams, all coarse leather shoe ware would be subjected to a higher rate of duty than is intended.

Leather shoes with wooden soles are at present entered as coarse wooden ware at 10 marks ($2.38) or as fine wooden ware at 30 marks ($7.14), according to whether the top part is made of undyed or only blackened and tanned leather (coarse wooden ware), or whether it is made of any other leather (fine wooden ware).

In the proposed tariff, a rate of 40 marks ($9.52) will be levied on all leather shoes with wooden soles. In this class of shoes, the wooden soles represent the principal weight, and it is therefore appropriate that they should pay considerably less duty than shoes with soles made from leather. For leather shoes of the last-mentioned kind, weighing more than 1,200 grams (2 pounds 10.3 ounces) a pair, a rate of 85 marks ($20.23) is proposed; for the same weighing between 600 and 1,200 grams (1 pound 5.1 ounces and 2 pounds 10.3 ounces), a rate of 120 marks ($28.56); and for those weighing 600 grams (1 pound 5.1 ounces) or less, a rate of 180 marks ($42.84).

The importation of leather shoes into Germany increases year by year, and if foreign competition does not yet mean danger for the home trade, the Germans think that in the absence of sufficient protection it is by no means impossible that their market may be flooded with foreign shoes; in fact, they note that a start in this direction has already been made, especially from the United States.

The importation of fine leather ware rose from 807.4 tons, of a value of 13,322,000 marks ($3,170,636), in 1897 to 1,023.4 tons, of a value of 16,886,000 marks ($4,018,868), in 1899 and to 1,131 tons, of a value of 13,892,000 marks ($3,306,296), in 1900.

The larger part of these importations consisted of fine shoe ware, viz, 792.1 tons in 1900, of a value of 9,505,000 marks ($2,262,190).

The subjoined table shows the value of the best selling light-weight shoes:

Description.	Weight of 1 pair.		Price of 1 dozen pairs.		Value of 1 double centner.*	
Light shoes:	*Grams.*	*Ounces.*	*Marks.*		*Marks.*	
Indian goat leather	200	7.05	30	$7.14	1,250	$297.50
Soft lamb leather	200	7.05	36	8.57	1,500	357.00
Varnished leather	400	14.1	42	10.00	875	208.22
Ladies' boots:						
Chevreaux	500	17.6	114	27.13	1,900	452.20
Calf leather	600	21.1	114	27.13	1,583	376.75
Gentlemen's boots:						
Chevreaux	650	22.9	132	31.42	1,692	402.70
Calf leather	800	28.2	126	29.99	1,312	312.26

* 220.46 pounds.

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Those shoes which according to their weight come under the rate of 120 marks ($28.56) would have to pay about 8.3 per cent, and those coming under the rate of 180 marks ($42.84) about 9.4 per cent, for duty. Besides the growth of foreign competition, the intended increase of import duty on most kinds of foreign top leather for shoes calls for the advance of the rate on shoes, according to German ideas.

In the proposed tariff, the rate for shoes weighing from 600 to 1,200 grams (1 pound 5.1 ounces to 2 pounds 10.3 ounces) includes also the upper parts of boots made from leather of all kinds in connection with elastic sides, because they are rather expensive, and, furthermore, for the reason that an augmentation is intended for woven goods in connection with yarns, as mentioned under paragraph No. 579. At present, the upper parts of shoes made from leather with elastic sides pay as leather ware according to the classification of the leather used.

The import of coarse shoes from January to October, 1901, amounted to 55 tons; the export, to 424.2 tons.

In fine shoe ware, the import amounted to 648.5 tons, as against 676 tons in 1900; the export, to 413.4 tons, as against 520.6 tons in 1900.

OLIVER J. D. HUGHES,
Consul-General.

COBURG, *December 3, 1901.*

AMERICAN SHOES IN SWITZERLAND.

According to official statistics, there were imported into Switzerland from the United States during the past three years boots and shoes worth $28,860, the increase of import being about 50 per cent each year. These statistics give only the figures of the direct importations and do not convey a correct idea of the number actually imported, for most of them come from distributing points in Germany and are entered at the Swiss frontier as originating in that country.

Five years ago, it was not possible to buy an American shoe in Switzerland, but we are gradually getting a firm foothold in the country, and now it is no novelty to see in the shop windows of the largest towns shoes with a little American flag displayed thereon and the announcement that they are American made, the inference being that they must necessarily be good. At Lucerne, for instance, two years ago there was not a shop which kept American shoes; last year five of them had them on sale, and at the principal ones I was informed that during the last season they sold out their entire stock and could have sold more had they had them on hand. This speaks well for the American article, when it is considered that one of the largest shoe factories in the world (turning out 5,000 pairs of shoes

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a day) is situated in Switzerland and is an important exporter to the Latin American countries.

The Swiss Government last year advanced the import duty on American shoes from 0.60 franc (12 cents) to 1.30 francs (26 cents) per kilogram (2.2046 pounds), but this increased the cost of the shoe only 10 or 15 cents a pair.

I give hereunder the names and addresses of a number of shoe dealers in this consular district. I believe the trade is worthy of the attention of our manufacturers.

R. Codoni-Dressler, Aarau.
A. Hagman, Aarau.
I. Schneeberger-Salvi, Aarau.
C. Busslinger, Baden.
A. Laube-Kläsi, Baden.
R. and C. Dosenbach & Co., Baden.
Spörri & Co., Baden.
I. Baumgartner, Lucerne.
W. Bollag, Lucerne.
C. Gerdes, Lucerne.
I. Husy-Peyer, Lucerne.
M. Imgrüth, Lucerne.
Frau Kaufmann-Honauer, Lucerne.
F. Krumenacher, Lucerne.
F. Limacher, Lucerne.
Wwe. M. Meyer, Lucerne.
I. M. Meyer, Lucerne.
Martin Meyer, Lucerne.
I. Spieler, Lucerne.
I. Stutz-Heim, Lucerne.
X. Walter-Vogel, Lucerne.
W. Weber Sohn, Lucerne.

HENRY H. MORGAN,
Consul.

AARAU, *December 5, 1901.*

MALT FROM RICE IN GERMANY.

Mr. Eugene C. Schrottky, residing in Dresden, has invented a process for making malt from rice, which has proven successful and promises to cheapen the cost of producing malt liquors in Europe.

A primitive method of malting rice has been known in Asia for many years, but the arrack produced is a fiery liquor, and the so-called rice beer did not find favor except with the natives. The inventor claims that in the old process only about 40 per cent of the rice germinated, an equal amount failed to germinate, while 20

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per cent decayed, tainting the fermented portion, resulting in an unwholesome product.

The new process is described to me as follows:

The unshelled rice, which first of all may be subjected to a preparatory treatment of washing, sorting, and cleaning, is put into water-tight vats, provided with a false, perforated bottom, and with inlet and outlet for water.

The rice should be in a layer about 6 inches thick, covered with water of ordinary temperature to the depth of an inch or so. The rice should be well stirred—all husks and light grain being removed—and whatever floats on top of the water should be drawn off.

Then a second supply of water, of a temperature of 35° to 38° C., is turned on, and the grain should steep in this for some time, the temperature being kept up. This may be done by arranging a steam pipe below the false, perforated bottom, or flues for hot gases may be constructed under the reservoir. By suitable cocks in the piping or dampers in the flues, the temperature of the water may be controlled.

When fresh rice is used, this soaking process should last from twenty-four to thirty hours; for old rice, however, forty-eight to fifty-four hours are necessary, the temperature being maintained at 35° C. The steeping should be arranged so that the necessary period should elapse in the evening, when the water is drawn off and the rice allowed to remain without water that night. By keeping the water outlet pipes below the false bottom open, the air is allowed to pass freely through the layer of rice, or it may be pumped through, so that the grain will have ample facility to absorb the oxygen necessary for the process of germination.

Next morning, a fresh supply of water of 35° to 38° C. is turned on, covering the rice for about 3 inches, and kept on for twelve hours, when it is again let off, and the rice remains without it for the night. This alternate treatment of the grain—viz, in water during the day and without water with free access to the air during the night—is continued for five or six days.

It is of advantage, also, to keep the temperature of the malting house at 30° C.

This alternating treatment and the maintenance of the necessary temperature are the main conditions for successful and satisfactory malting.

The periodical drawing off of the water may be dispensed with by pumping air through the rice layer. This method, however, has not been found to yield as good results as that above described.

At the end of the five or six days' treatment, nearly every grain of rice will be found to have germinated, and the sprouts will have grown about twice as long as the rice grains.

After germination has proceeded sufficiently for the development of the diastase, the grain should be carefully shoveled together so as to make a layer of 12 inches, to gain warmth for the final development. No water is put on, and in the evening the heap is opened out and reduced again to a layer of 6 inches, or even less, to prevent overheating. On the following morning the malt will be found ready and can then be dried in the usual way or used at once as "green" malt for the manufacture of beer, spirit, or glucose.

This invention may not be valuable in the United States and Canada, where the production of barley is large and the cost comparatively low; but in Europe and Great Britain, it seems likely to cheapen the cost of producing malt liquors, which are consumed in such large quantities.

CHAS. L. COLE,
Consul-General.

DRESDEN, *November 28, 1901.*

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GERMAN SUGAR PRODUCTION AND THE CARTEL.

The general feeling of uncertainty and anxiety about the future of the beet-sugar industry in Europe—some allusion to which was made in a report of this series dated the 14th of October, 1901*—seems to grow more acute with the progress of the season's campaign.

The latest official estimate shows that, exclusive of Denmark, the sugar-growing countries of Europe will produce this year 5,928,150 tons of raw sugar, an increase of 262,850 tons over the already enormous product of last year. Of this vast output, Germany will, it is estimated, yield 2,073,100 tons, against 1,974,800 tons during the last preceding campaign.

On the 7th of December, a high commercial authority estimated the visible supply of raw sugar now in the principal European markets at 1,640,813 tons, against 1,297,525 tons on the same date in 1900 and 1,249,772 tons in 1899. Adding to these the visible stock of raw sugars in the United States and Cuba on the 4th of December, there is found to be in sight 1,825,921 tons, against 1,407,783 tons on the same date last year and 1,554,790 tons in 1899.

Under these conditions and in view of the growing production of sugar in the United States, Cuba, Porto Rico, and Hawaii, prices of raw sugar in the German market have sunk until the condition of the whole producing interest would be desperate were it not for the "cartel," or secret working combination between raw-sugar factories and refineries, by which high prices are maintained for all sugar consumed in Germany, the profits from which, added to the Government bounty paid on exports, enable the factories to pay a proportionately high rate for beets and at the same time sell their exported product in foreign markets at prices with which other nations find it difficult to compete, and which in effect give the German producer a commanding position in the world's sugar market.

The cartel, or syndicate of sugar producers and refiners, about which much speculation, more or less inaccurate, has been published recently in the English newspapers, was organized something more than a year ago, and, according to a statement which appeared at that time, includes about 95 per cent of the sugar-producing interests in Germany. Its management is secret and somewhat difficult to study, except through the medium of results, but in general terms it may be stated that the cartel guarantees producers of raw sugar

*Consular Reports No. 256 (January, 1902).

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a certain minimum price and takes their entire product. Any difference between this minimum and a lower price which may rule in the world's markets is made up by the refiners. On the other hand, the raw-sugar producers guarantee to pay a fixed minimum price for beets, to produce no raw sugar for consumption in Germany, and to sell their raw sugar only to refineries belonging to the syndicate. Among the results of this clever scheme two may be cited which will explain the present situation, viz: On the one hand, the factories are able to pay for beets about 75 cents per ton more than the general sugar market price outside of Germany would justify, and, on the other, refineries are able to control absolutely the price of sugar for consumption in Germany, and this they do so effectively that ordinary white lump sugar costs to-day at any grocery store in Berlin 30 to 35 pfennigs (7½ to 8¾ cents) per pound, or nearly three times what is charged for the same grade of German-made sugar in London, and this at a moment when Germany has just harvested the largest beet-sugar crop in her history and when industrial depression and diminished wages render high prices for any food material especially burdensome to the people.

So oppressive have become the exactions of the cartel that the Associated German Chocolate Manufacturers took steps early in September this year to organize at Genthin, in Brandenburg, a scheme for the erection of a factory capable of working up daily 15,000 centners of beets, the product of which is to be used in their business. This break for independence by a union of heavy consumers of sugar has caused some agitation on the part of the cartel, whose organ warns the chocolate makers of the results of such insubordination; but, according to definite press reports, the latter have gone on making ten-year contracts for beets with the farmers of a large region, and will have their factory and refinery in readiness for the campaign of next year.

Meanwhile, several meetings have been held to discuss plans for reducing the area of beet culture and to consider what will be the effect on German sugar interests should the pending international conference at Brussels vote to abolish export bounties, a result which no one familiar with the situation expects to be realized any more than it was in 1898. France then refused to give up her bounty system, and, it is thought, will this year be sustained by Russia in opposing any serious change in existing laws.

Equally unpromising is the outlook for any important and systematic reduction in the area of beet culture next year. The simple fact is that under the management of the cartel farmers receive for their beets a price considerably higher than is justified by the value of sugar in the world's markets, and consequently sugar beets

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are about the only crop left to German farmers that is largely profitable. While they will meet and talk and adopt resolutions against overproduction, they are aware that any action which they may take to that end will be abortive for Germany unless France, Russia, and Austria-Hungary, to say nothing of Belgium, Holland, and Sweden, will join in the agreement, and this they have manifested no disposition to do. The public press reports are probably correct when they describe the proceedings at the meetings for reduction of area as showing that every beet farmer and factory manager seems anxious to persuade everyone else to restrict his area of beet culture for next year, but has no serious intention to do so himself.

Meanwhile, the principal lesson which American sugar growers have left to study in this country is the intelligent utilization of the two principal waste products of beet-sugar manufacture—the spent pulp and the crude molasses—which latter contains usually from 40 to 50 per cent of sugar that can not be crystallized out on account of the potash salts which the crude sirup contains.

In the early years of German beet culture the utilization of these secondary products attracted relatively small attention. Agricultural science was busy with the task of improving the quality of the beet itself, increasing the percentage of saccharine elements in the pulp, and augmenting the yield of beets per hectare. It was soon discovered that the spent pulp from the sugar factories was a most valuable food for cattle, that by drying, it could be preserved for use throughout the winter; and that by adding to the dried pulp the waste molasses, the feed was not only rendered more palatable for animals, but, being fed on the farm, the potash of the sirup was retained on the premises and restored to the land in the form of stable leachings and manure.

For a number of years waste beet molasses in this country was either exported to France or Spain or was used here as a raw material for the manufacture of alcohol, the potash salts being in that case recovered and restored to the land as a separate chemical fertilizer. But the internal-revenue laws of Germany are so shaped as to favor the production of alcohol on a large scale and at a small cost from potatoes, so that the spirit manufacture from beet molasses was gradually abandoned and the waste sirup used for feed. Germany is a country with limited grazing facilities; vast quantities of corn are imported as food for animals, and every kind of nutriment for cattle, horses, or swine is costly, when compared with the prices of similar materials in the United States. For this reason, principally, the home production of meat in this country is, and will probably remain, far behind the needs of the people. Spent beet pulp enriched with waste molasses helped, therefore, to meet a pressing

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want, and the crude sirup is now worth for this purpose 4.75 to 4.80 marks ($1.13 to $1.14) per 100 kilograms (220 pounds) in carload lots.

That similar conditions will obtain in the United States, where pasture, hay, corn, and all forms of food for animals are abundant and cheap, is hardly probable. But the beet-sugar producers in our country should start out with the idea that nothing that comes from the land should be wasted or prevented from sooner or later returning to it. It may be long before the rich virgin soil of American beet farms will be reduced to the condition of the worn fields of Europe, where the strictest balance must be maintained between the chemical elements harvested in a crop and returned to it by skillful rotation of cultures and scientific fertilization. But our country has as yet no native potash minerals, and if our growing beet-sugar industry is to make the most of its advantages and opportunities, it can not afford to neglect the scientific methods which have been found most effective in Europe in conserving to the utmost practical degree the strength and vitality of the soil.

FRANK H. MASON,
Consul-General.

BERLIN, *December 17, 1901.*

DRYING BEET PULP IN GERMANY.

A new method of drying sugar-beet pulp which has been freed from its contents of sugar has lately appeared as a rival to the invention of the firm of Buettner & Meyer. In the latter system, which for some time has been used with success in more than a hundred German sugar factories, the pulp is dried by means of hot gases, which accompany the pulp in a parallel stream. The inventor of the new method, the owner of the machine factory of J. Sperber, in Vienna, starts with the supposition that pulp which is dried by heat from a fire must be more or less soiled by the particles of ash which come from the used-up fuel, and must, therefore, be highly injurious to the animals consuming it—a supposition entertained by many, which has, however, never been proved in practical use to be correct.

Sperber, therefore, dries with steam. The pulp is first cut up by machines into small pieces about one-tenth of an inch thick and one-tenth of an inch long, which are passed into an apparatus where they are tossed to and fro by means of shovel-like implements; afterwards coming into contact with movable hollow bodies, through which steam flows. By this means, the small particles gradually lose their contents of moisture. The damp air is carried off by an exhauster which creates a small vacuum (exactly regulated by the exhauster); and this also aids in desiccating the pulp. When

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the process is completed, the pulp is freed from the machine by means of a screwlike contrivance and is raised up to a funnel to which sacks, for the reception of the dried pulp, are fastened.

The firm of J. Sperber has erected two specimen drying machines in Austria-Hungary, one in France, and one in Germany, the last in the sugar factory Westerhuesen, near Magdeburg. The Magdeburg machine produces about 250 kilograms (550 pounds) of dried pulp of an excellent quality per hour. The damp pulp, which comes from the diffuser with about 90 per cent of moisture, is pressed by a curiously constructed machine until it contains only about 3 to 5 per cent.

According to the statistics given by the director of this experimental apparatus, the amount of steam required is about 600 kilograms (1,320 pounds) per 100 kilograms (220 pounds) of dried pulp. It is hoped that it may be possible to reduce this amount; but there is a definite limit to this reduction, and it is hardly probable that Sperber's apparatus will be able to compete, on account of the working expenses, with the old method of direct drying by hot gases. Still, the Sperber system has this great advantage: It is excellent for the drying of all kinds of fruits and could also be used for meat.

MAX J. BAEHR,

MAGDEBURG, *December 13, 1901.* *Consul.*

FOREIGN FRUITS IN GERMANY.

The consumption of foreign fruits in Germany is increasing from year to year. According to official statistics, the importation of apples in 1899 amounted to over $10,000,000; pears, about $2,500,000; cherries, $430,000; plums and "stone fruits," $2,800,000; and berries and other fruits, over $500,000—making a total of $16,430,000.

The largest shipments of fresh fruits come from Austria-Hungary, Holland, Belgium, France, Italy, and America. The report of the Municipal Market of Berlin for 1900 shows that, under the most favorable conditions, it will be possible to prevent a part of these importations only by an improvement in German fruit culture.

The tables of the average prices (wholesale) show that the foreign fruits were almost in every instance more expensive than the home productions. They are of a finer quality, and many varieties arrive on the market much earlier than similar German fruits. The latter circumstance, due to climatic conditions, naturally can not be remedied by the German fruit raiser. Apples, pears, and plums are the leading fruits not yet produced in desirable qualities in Germany.

RICHARD GUENTHER,

FRANKFORT, *December 16, 1901.* *Consul-General.*

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RESERVOIR IN SILESIA.

The laying of the foundation stone of a dam which will close the valley of the River Queis took place recently in the presence of representatives of the Prussian Government. This dam will form part of a reservoir of enormous dimensions. Between Rengersdorf and Eckersdorf, in Silesia, it will open into a kind of lake 750 meters (817.5 yards) broad, holding 15,000,000 cubic meters of water.

The retaining wall will be built throughout of huge granite blocks and have a breadth of 20 meters (21.8 yards) at its base. The wall is to be vaulted and planted firmly on the granite rock of the valley. The river finds egress by means of two tunnels blasted through the solid rock. The tunnels are provided with numerous shut-offs, so that when water is abundant it can be held back in the reservoir and stored up for the dry summer season.

The cost of this work will be a round 4,000,000 marks ($952,000). The interest on this amount will be partly paid by contributions from factories situated on the lower course of the river, which in the dry season will profit by the regular water supply. It is estimated that it will take from four to five years to complete this work.

OLIVER J. D. HUGHES,
Consul-General.

COBURG, *December 6, 1901.*

ARTIFICIAL FLOWERS IN SAXONY.

Artificial flowers, leaves, and plants form the most important article of export to the United States from this consular district. Several large factories in Dresden produce a considerable quantity, but the principal point of manufacture is at Sebnitz, a town of 8,500 inhabitants 35 miles northeast from Dresden, close to the Bohemian boundary. The declared exports to the United States testify to the remarkable growth and development of this industry; in 1891, they amounted to $97,037.61 and in 1900 to $335,855.19, an increase of $238,817.58 in nine years.

For the fiscal year ended June 30, 1901, there was a slight decrease from the figures of 1900, but the first five months of the current fiscal year promise an increase over the largest annual shipment. From July 1, 1900, to December 1, 1900, the exports amounted to $118,370, while during the same period of this year the figures stand at $188,860.

The origin of the artificial-flower industry, according to the most

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reliable statistics, dates back to about 1840, and was due to the immigration of a few makers of flowers from Bohemia. At first, only a very inferior grade was made, chiefly of tissue and thin colored paper.

In time, the industry made progress, and business connections were effected with foreign countries. Sebnitz is now not only the center of the artificial-flower trade in Germany, but favorably competes with its French rivals.

While it is admitted that the Paris finish and especially the exquisite French taste can not be excelled, yet Sebnitz places every year a very handsome selection of high-class novelties before the buyer.

Up to the year 1870, very little export business was done from Sebnitz, but the Franco-German war, disastrous to most branches of trade, was directly beneficial to the flower industry. During the siege, Paris could not fill orders and Sebnitz was called upon to supply the demand. This gave a remarkable impetus to its trade.

At the present date, there are some 430 manufacturers of artificial flowers, leaves, plants, fruits, etc., in this consular district, of which 330 are located in Sebnitz and neighboring villages and 100 in Dresden and suburbs. Of these concerns, about one-third are engaged in the wholesale export business and the largest manufacturers employ from 250 to 1,000 persons.

The total number of persons engaged in the trade is estimated at 10,000, the larger proportion being females.

The total export from Sebnitz to foreign countries, other than to the United States, is said to be over $1,000,000 per annum, and during winter—the busiest time—several thousand large packing cases are dispatched per month.

Practically no machinery is used in the manufacture of artificial flowers, and when going through the largest factory I noticed only hand presses to cut out, emboss, and give shape to the leaf or blossom; also, quite an ingenious device for making cotton fruits, and a "tubing" machine, which makes flower and leaf stems of all shades. All the rest of the work, such as dyeing, coloring, stemming, shaping, shading, mounting, waxing, binding, etc., is done by hand.

Work is paid for by the piece—dozen or gross—and the earnings vary from 30 to 50 marks ($7.50 to $12.50) per month for females and from 35 to 80 marks ($8.75 to $20) for males, according to age, kind of work, skill, and diligence.

Children under 14 years of age are prohibited by law from engaging at work in factories, and must have passed the term at the public school before they can obtain such permission.

The most important feature of the artificial-flower trade is the

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house industry, and it can safely be stated that two-thirds of the work is done outside of the factories by families who are supplied with the cut material ready for stemming, shaping, binding, etc. A factory employing 100 persons in its establishment gives work to 300 or 400 outside. There is hardly a house in Sebnitz and neighborhood where artificial flowers are not made, and even the farmer who works in his field in summer time makes flowers during the winter.

The tools used for cutting out the different shapes of leaves, parts of blossoms, etc., are made in Sebnitz and Dresden, and the largest manufacturer has over 500 different tools, some of which, especially those for cutting out fine fern leaves, cost as much as $25 each.

I inclose a bird's-eye view of Sebnitz, and also a number of photographs showing the different departments of an artificial-flower factory in full activity, which were kindly supplied to me by the manufacturers.*

CHAS. L. COLE,
Consul-General.

DRESDEN, *December 13, 1901.*

GERMAN COLONIAL ENTERPRISE.

On November 12, 1901, Dr. Vosberg-Rekow, director of the Bureau for the Preparation of Commercial Treaties, in a speech before the merchants of Leipzig, among other things said:

It is evident that we can never give up our present policy relative to foreign affairs or the strenuous efforts being made to become a great sea power. We must engage in colonial politics on a large scale. We must strive to expand our spheres of interest and to instill in our people the consciousness of the necessity of an aggressive policy. It is only by the annexation of territory beyond the seas, the development of our colonies, the organization and direction of emigration to the same, that we may ever hope to be in a position to supply those natural products which we are not able to produce within the borders of the home country.

The German colonies of to-day are as follows: East Africa, Kamerun, Togo, Southwest Africa, New Guinea, Caroline Islands, Pellew Islands, Marianne Islands, Marshall Islands, Samoa, and Kyao-chau.

The territory comprised in all these colonies amounts to 2,557,000 square miles. They have a white population of 6,008, of which only 3,977 are Germans. Not a single one of these colonies is self-supporting. The total income for 1900 from tariff duties, etc., amounted to $8,226,470, while the deficit reached the sum of $6,977,922.

The ideal relations between a colony and the mother country are those which permit the colony to produce the raw material, which

* Filed for reference in the Bureau of Foreign Commerce.

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the mother country receives and sends back in a manufactured state; but in accordance with an irresistible law of economics, a colony with great material resources will gradually emancipate itself from the mother country. It is doubtful, however, whether this will shortly be true of any of the present colonies of Germany. In almost every part of the world where her acquisitions are situated, there is in the immediate neighborhood a colony of Great Britain or of some other country which is better able to produce colonial products. German East Africa has for its neighbor on the north British East Africa, with the harbor of Zanzibar; on the west, the Kongo Free State, which the Kongo River intersects, affording natural advantages of transportation. The reputed better quality of soil for growing tropical products, too, will immensely assist those colonies on the road to material progress. The commercial development of German Southwest Africa will one day probably be retarded by the competition and aggressiveness of Cape Colony.

The foreign commerce of the German colonies for 1899 was as follows:

Colony.	Imports.	Exports.
East Africa	$2,575,874	$937,006
Kamerun	2,532,082	1,324,748
Togo	780,640	614,754
Southwest Africa	2,128,958	332,862
New Guinea	385,322	267,882
Marshall Islands	108,052	121,142
Samoa	509,558	368,190
Total	9,020,486	3,966,584

Germany's commerce with these colonies for 1900 was as follows:

Colony.	Imports.	Exports.
East Africa	$266,084	$899,152
Southwest Africa	75,446	1,225,224
Kamerun and Togo	1,029,588	2,018,954
Kyao-chau	22,562	1,333,990
New Guinea, Marshall Islands, Caroline Islands, Pellew Islands, and Marianne Islands	81,158	169,456
Samoa	120,428	47,124
Total	1,595,266	5,693,900

Germany's share in the exports of her own colonies is therefore only 50 per cent, while of all the products required by the colonies the mother country supplied but 60 per cent. Great Britain, either directly or through the medium of her colonies, has a monopoly of almost half the commerce of the German dependencies.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *November 28, 1901.*

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CONSUMPTION OF PETROLEUM IN GERMANY.

Germany's annual consumption of petroleum is valued at $19,992,200, and represents nearly 7 per cent of the world's total output.

In 1900, Germany imported refined petroleum and naphtha, as follows:

	Tons.
Austria-Hungary (Galicia)	25, 143
Russia	128, 330
United States	825, 205
Total	978, 678

The world's production of petroleum in 1898 was estimated in the statistical returns as follows:

	Tons.
United States	7, 500, 000
Canada	120, 000
Russia (Baku)	8, 000, 000
Galicia	300, 000
Roumania	100, 000
Germany	20, 000
Java, Sumatra, and Burma	300, 000
Total	16, 340, 000

American petroleum has a powerful advantage over its competitors. The following table will show the average results obtained after the different raw mineral oils have been refined:

Country.	Benzine.	Petroleum.	Waste.
	Per cent.	*Per cent.*	*Per cent.*
Pennsylvania	10 to 20	55 to 75	10 to 20
Ohio	10 to 20	30 to 40	35 to 50
Russia	5	25 to 30	60 to 65
Galicia	5 to 30	35 to 40	30 to 55
Alsace	5	25	65 to 75

Therefore, Russian petroleum has only about 34 per cent of the value of the American product. Any country which has been in the habit of using American petroleum can not suddenly substitute the Russian for it, for the reason that new apparatus is necessary for the latter.

The general impression in Germany is that petroleum prices are too high. Consumers claim that the discovery of new wells, such as those in Texas, together with the gradual cheapening of the cost of production, aided by rapid transit through pipe lines and tank steamers, has not caused a proportionate decrease in the price.

Unquestionably, the high price of petroleum in Germany has

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greatly assisted the sale and use of gas, acetyl, electricity, wood alcohol, etc. The fact that the German consumption of petroleum has not increased since 1895 proves only too significantly the progress made by the last-named substitutes.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *December 6, 1901.*

PETROLEUM BRIQUETTES IN FRANCE.

Briquettes made with petroleum have been manufactured in various ways in different countries, notably in Russia, France, and the United States, as a combustible for steamships and for certain industries where rapid production of heat is desirable.

The advantages of such a substitute for coal are readily apparent—less storage room, complete combustion, etc. It is surprising that petroleum has not been utilized more generally in this form. The objections are that the briquettes injured the boilers after a short time, by reason of some chemical action produced by combustion; further, the blocks did not keep their form under the action of the heat, but fell through the fire box in a liquid state, and the price is stated to be two-thirds more than that of coal.

A company has recently been formed at St. Etienne for the manufacture of petroleum briquettes which claims to have obviated all the objections except that in regard to price. The advantages of the product are set forth as follows:

The briquette is composed of 97 per cent of petroleum and 3 per cent of hydrocarbon. The volume being equal, it weighs only half as much as coal and gives but from 2 to 3 per cent of residue; it produces no slag; it does not "run" when lighted and keeps its form like coal; it burns without odor and without smoke; it may be wetted with impunity, losing none of its properties; it consumes without explosion or sparks and yet with a bright and long flame; it may be kept indefinitely without deterioration. By this process, a degree of saponification is obtained, by which the briquettes are rendered unchangeable even to the extent that if a projectile should enter a ship's bunker filled with this fuel, there would be no danger whatever of explosion; the effect being the same as in the case of ordinary coal.

The average heating power is from 12,000 to 14,000 calorics, and the briquettes can be employed in any fire box or in any grate for domestic purposes.

The manufacture of these briquettes is very simple and requires but little machinery. If necessary, the petroleum contained therein can be recovered, with a loss of only 5 to 7 per cent.

The same company manufactures what are called mixed briquettes—half coal and half petroleum—but if these are cheaper than the former, they present less advantages, from the fact that the density is greater and the heating power is only 9,000 calorics. A steamer carrying 8,000 tons of coal would require 3,500 tons of mixed briquettes and only 2,500 of the pure petroleum briquettes.

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The petroleum used by the company comes from the United States and only the refined quality is employed. When I asked why the managers did not employ the Russian oil, they replied that while the price was the same (12 francs per 100 kilograms, or $2.31 per 220 pounds), the latter was less refined, as it contained more greasy matter.

A short time ago, the company submitted the briquettes to the Government and after several experiments a trial order for 150 tons was given, to be delivered as quickly as possible. This order is now being executed.

A group of capitalists at Marseilles is about to buy the invention of the St. Etienne company and form a company with a capital of 4,000,000 francs ($772,000), to establish manufactories at Marseilles, Suez, Batum, etc. The selling price of the briquettes will be about 8 francs per 100 kilograms ($1.54 per 220 pounds).

As an indication of the interest the French Government is taking in this new fuel product, it has ordered that all the petroleum used in filling its order shall be admitted free of custom duties.

HILARY S. BRUNOT,

ST. ETIENNE, *December 11, 1901.* *Consul.*

COTTON-OIL EXPORTS FROM MARSEILLES TO THE UNITED STATES.

The statement, received with some surprise in the United States, that peanut oil has been shipped to America, in spite of a large domestic crop of groundnuts, is to my mind less striking than the circumstance that cotton oil of French manufacture has been successfully exported from Marseilles to the United States, in face of the fact that this city is at the present time the most important market for American cotton oil in the world. The digest of invoices at this office shows the following consignments of cotton oil from this port during the last four quarters and during October, 1901:

December 31, 1900	$1,900
March 31, 1901	None.
June 30, 1901	3,680
September 30, 1901	1,753
Month of October, 1901	1,000

I have taken the pains to procure a sample of the last consignment of cotton oil thus forwarded to the United States, and, after submitting it to local experts, find that there is a difference of opinion with respect thereto. One experienced manufacturer gives it as his opinion that it is nothing more or less than American oil, or at the most a compound; while other experts, notably two of very high reputation, pronounced it a pure cotton oil, crushed from Indian or

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Egyptian seeds. These experts are very definite on the point that this article is not of American origin and is not mixed with olive, sesame, or other vegetable oils. The merchandise from which the sample is drawn was invoiced at 42.50 francs ($8.20) per case of 10 gallons. Reducing these figures to the terms commonly employed in this market in transactions of this kind, and calculating each gallon at 3.4 kilograms, the f. o. b. price would be 125 francs per 100 kilograms ($24.12 per 220 pounds), while on the same date American winter edible was quoted at 63 francs ($12.15) per 220 pounds. I submit the figures without comment.

There are three Marseilles firms (C. A. Verminck & Co., Montmeyer & Rodocanachi, and Darier de Rouffio) who buy American cotton oil on the market, refine it, and resell it, presumably at a profit. Darier de Rouffio buys Egyptian seed and produces an oil quoted at 85 francs ($16.40), while the highly refined American oil of the same description brings but 75 francs ($14.47) and "choice winter American edible" 63 francs ($12.15). This manufacturer by no means confines himself to the sale of oil of his own crushing, as his purchases of American cotton oil for subsequent refining are probably more important than his own output. It has furthermore been represented to me that the quoted price of $16.40 is open to revision, and that purchases have been made at from 69 francs to 72 francs ($13.47 to $13.89).

The manipulation to which this oil is subjected is not at all mysterious, nor does it appear that the Marseilles manufacturers are in possession of any process not quite as well understood in the United States. Indeed, one of the gentlemen to whom I am indebted for information assures me that the cotton oil being exported from here to the United States and fetching high prices is not so good as many brands of American edible oil, and he can not account for the frequently repeated operation on any ground of commercial propriety.

The refining of the American oil consists merely in the extraction of the margarin by precipitation. The oil is placed in chambers where the temperature is below the freezing point, and then returned to chambers where the temperature is 12° C. The chilling of the oil precipitates the margarin, and the subsequent heating fails to effect a recombination of the elements in the oil, which remains cloudy unless the margarin is withdrawn. It is the careful straining of the American oil under these conditions which produces the winter oils now so generally known, and when the operation is properly performed the product will stand any reasonable amount of cold weather without becoming cloudy, for the reason that the margarin is no longer present.

Such tremendous strides have been made by the American oil

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manufacturers that their brands are known in this market not only among large buyers, but by small grocers and even actual consumers. These small dealers buy American standard oils, a barrel at a time, and draw the oil off by the gallon or quart, in the same manner as molasses is sold in the United States. It is only fair to say that a number of well-informed people think that the refiners here are a step or two in advance of the American manufacturers, and the presence of the industry and the prices obtained give reasonable ground for their assertions. On the other hand, I am told elsewhere that the refining of American cotton oil in this market is bound to become less and less important.

During the past year, large quantities of American oil sold to Marseilles soap manufacturers have been resold upon arrival either for direct consumption or for further refining, the soap manufacturers having found it possible to replace this oil with cheaper vegetable oils of local manufacture.

Thus, the steady advance of the American cotton-oil industry threatens the soap industry with a new danger in the loss of a raw material once cheap but now too valuable for their purposes. While cheaper seed oils are at present procurable, there is no immediate prospect of a reliable supply from year to year of a low-grade oil which they can use. So long as cotton oil remained available to them, they had the satisfaction of knowing that they would not be hampered by any lack of raw material, as the large acreage devoted to cotton oil in the United States gave assurances of a yield of oil the amount of which could be calculated with a degree of accuracy. There are so many elements of doubt with respect to seed crops of India and of the east and west coasts of Africa that it is not possible to assume anything more than is warranted by the actual stock on hand.

In this connection, the following calculation may be useful to intending exporters of cotton oil, taking as a basis cotton oil at 35 cents per gallon in New York:

Description.	Estimate.	
	Francs.	
Cost of 100 kilograms f. o. b. New York, at 35 cents per gallon (1.75 francs per 3.4 kilograms)	51.50	$9.939
Freight on 100 kilograms, at 48. (5 francs) per barrel of 180 kilograms	2.80	.54
Total cost and freight	54.30	10.479
Insurance	.45	.086
Loss 1 per cent, guaranteed	.55	.106
Commission and charges	1.65	.218
Price c. i. f. Marseilles	56.95	10.889

ROBERT P. SKINNER,
Consul-General.

MARSEILLES, *December 4, 1901.*

No 258—02——4

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EXPORT OF SEA FLINT PEBBLES FROM FRANCE.

Numerous inquiries have recently been received from American manufacturers for information concerning sea flint pebbles (galets de mer), which are sent from France to various countries.

By the action of the sea on the base of the chalk cliffs, which form the coast line of a portion of the Department of the Seine Inférieure, fragments of the rock are detached. Those which are composed of the flint found in the cliffs, on account of their hardness, are not reduced to sand by the trituration arising from the movement of the waves or tidal currents, and become what are known as sea flint pebbles. These are gathered on the beaches between Havre and St. Valery-sur-Somme, a distance of a little over 100 miles. Those which are nearly spherical in shape are carefully selected and are used in the Alsing system of cylinder grinding, which is becoming so generally employed for pulverizing cement, pharmaceutical and chemical products, etc. The others are bought by the potteries for making ordinary porcelain ware, after being calcined, ground into a fine powder, and mixed with china clay.

According to the official custom-house statistics, there were 13,592 tons of flint pebbles exported from France during 1900, valued at $39,348. The value of the declared exports of these stones from France to the United States for the fiscal year ended June 30, 1900, was $16,743, of which $3,849 were shipped from Havre, $4,458 from Boulogne, and $8,436 from Dieppe.

The prices of the flint pebbles for use in the potteries range from 5s. 3d. ($1.27) to 12s. ($2.92) per ton f. o. b. in bulk at Fécamp, St. Valery-en-Caux, Dieppe, Tréport, St. Valery-sur-Somme, and Havre, according to quality and to the port from which they are shipped. For the selected pebbles, the prices vary from 35s. ($8.52) to 42s. ($10.21) f. o. b., packed in barrels or bags, packing included.

The rate of freight from Havre or Dieppe to New York averages 10 francs ($1.93) per ton of 1,000 kilograms (2,204.6 pounds).

French flint pebbles are shipped to England, Scotland, Norway, Sweden, Russia, Spain, Japan, and the United States. In the Baltic ports, they have to compete with the pebbles exported from Denmark. Germany is now using silica sand from the River Rhine for pottery purposes, which replaces the flint pebbles. The French pebbles also have to compete with those collected on the English coast at Newhaven, Shoreham, and Rye, with the chalk flints shipped from London, and with the Greenland selected pebbles.

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The principal French exporters in the Department of the Seine Inférieure are:

Robert Holl, Fécamp.
Robert Delarue & Co., Dieppe.
Taylor & Son, Dieppe.
Samuel J. Holl, Dieppe.
Henry Holl, Tréport.
Hy. Chegaray, Havre.

A. M. THACKARA,
HAVRE, *December 3, 1901.* *Consul.*

FIRE-INSURANCE OPPORTUNITIES IN HAVRE.

Referring to the report on "Fire-insurance opportunities in France" made by Consul-General Skinner, of Marseilles, dated July 12, 1901, and published in CONSULAR REPORTS No. 253,* I give below a copy of a letter which I have received from William Mason, a large importer of Havre, which confirms the statements made by our consular representative at Marseilles. He says:

> Referring to our conversation, I beg to confirm that there is a good opening for a first-rate fire-insurance company to start an agency at the present time, and I should be very pleased to have the address of one or more companies willing to extend their business to this country.
>
> Owing to the enormous arrivals of coffee, merchants find difficulty in getting insurance on the Docks Entrepôts warehouses, built on the most approved style. Until lately, goods, excluding cotton, were insured in these warehouses for 1 per cent per annum; but the companies have increased their rates to 2 per cent, and most of those who usually do the business here have issued policies to the maximum amount that they will cover on any one warehouse. The risk is really a limited one, as the buildings comprise a large number of warehouses isolated from each other.
>
> Any company wishing to do business here would have to obtain an official recognition from the Bank of France.

As Havre is probably the largest coffee market in the world, it would be advisable for American fire-insurance companies, if they wish to extend their business to France, to investigate the question. The stock of coffee in the Havre bonded warehouses on December 20 last was 2,421,860 bags.

A. M. THACKARA,
HAVRE, *December 24, 1901.* *Consul.*

*ADVANCE SHEETS No. 1105.

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FRENCH SILK INDUSTRY.

The permanent committee on the value of customs imports and exports has recently made public, through the Journal Officiel, a report on the silk industry in France, the most important features of which I condense.

The silk production of Europe for the year 1900 amounted to practically the same figure as in 1899; but for the last two years the culture of the silkworm has been much extended in Bulgaria, Servia, Persia, Turkestan, and the regions of the Caucasus. These districts furnish 745,000 kilograms (about 1,500,000 pounds) at present, as compared with only 400,000 kilograms (881,840 pounds) delivered for manufacture in 1898.

The product of China presents great uncertainties, on account of the poor quality of the seeds. The figures of the production in China are not known—only those of the export. In years of high prices, the exports naturally increase.

The general production of silk is marked by a continuous increase. From 1898 to 1900, inclusive, the average output per year reached 16,500,000 kilograms (36,375,900 pounds). This fact is of first importance, for when the price of silk is within moderate limits, its manufacture is stimulated. The French product, although greater than in 1900 or in any preceding year, represents only a small part of its silk industry. This product was, in 1900, about 744,000 kilograms (1,640,000 pounds) of raw silk. However, it is known that French factories absorb about 4,000,000 kilograms (8,818,000 pounds) of silk every year; and if we also consider the fact that France exports part of its own raw silk, it is seen that this country must receive from abroad nearly or quite 3,500,000 kilograms (7,716,000 pounds) of silk every year, to meet the requirements of its manufacturers.

The amount of raw silk sold in France in 1900 does not represent more than 37.63 per cent of the world's commerce in silks; in 1899, the proportion was 48.29 per cent.

By a comparison of the last six years, it is seen that the manufacture of silk has not increased in France since 1895. During these six years in which France has remained stationary, other countries of Europe and the United States have made so much progress that France, which worked up 24.33 per cent of all the silk in the years 1895–1897, has utilized only 22.23 per cent in the last three years.

Up to 1897, Italy worked less in silk than France; since that time, however, it has taken the lead, to a greater extent each year. This is explained more by the production of raw silk and by the many

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throwing establishments in Italy than by the manufacture of silk goods. It is also explained by the part played by Italy in the commerce in Asiatic silks.

One of the greatest elements contributing to augment the share of Italy in the general commerce in Asiatic silks is the increasing importance of Genoa. This port received, in 1899, 14,000 bales of silk, but in 1900 this amount had increased to 20,680 bales. It is true that some of the shipments were directed to France, but it is none the less true that that part of Italy is constantly growing, and that it benefits more and more by a transit which formerly belonged to Marseilles. The quantity of silk carried by the German line (North German Lloyd) has increased from 14,356 bales in 1899 to 20,680 bales in 1900, while that carried by the French and English lines has sensibly diminished.

From a commercial point of view, 1900 has been a year of general shrinkage. There has been a decline almost corresponding to the rise of 1899. The excessive operations of 1899 were based upon the general conviction that the production of silk could not meet the demands of factories. The decline which took place in 1900, while producing trouble and constraint in the trade in silks, both raw and manufactured, had also the happy effect of lowering the price to the point most favorable to extensive manufacture.

The export of colored silks shows a tendency to increase—from 53,100 kilograms (117,064 pounds) in 1898 to 60,200 kilograms (132,717 pounds) in 1899 and 107,900 kilograms (237,876 pounds) in 1900. This branch of French exports represents to-day more than 3,000,000 francs ($600,000).

In six years the quantity of foreign silks which has been sent to France for dyeing, under the rule for temporary admission, has almost doubled, increasing from 572,500 kilograms (1,262,134 pounds) to 992,000 kilograms (2,186,963 pounds). In 1900, there was less industrial and commercial activity, yet the quantity, instead of diminishing, increased in comparison with the preceding year, when business was exceedingly good. The industry in silks for sewing and embroidering was not prosperous in 1900. Fringes have been abandoned by fashion; embroidery in silk is not in favor; and, finally, the trimming of furniture has suffered much by the introduction of new styles.

In 1900, the number of producers of raw silk in France increased slightly—136,214 in place of 128,114 the year before—and the average production was the highest known in France up to the present time. It is necessary to say, however, that the cultivation of the silkworm does not increase in France, despite the bounty paid by the Government, and despite the most favorable circumstances. One would suppose that the system of subsidies would induce a

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greater number of individuals to undertake the propagation of silkworms, but this is not the case. It is the last four years of the decennial 1890–1900 that show the weakest figures. The importance of the product of 1900 is due solely to conditions generally favoring the propagators. The agricultural population of southern France does not take as much interest as formerly in the raising of the silkworm, and even the large establishments in the midst of well-cultivated plantations do not seem to develop.

There is no lack of mulberry trees, but in many regions not enough young trees are being planted; the old ones, set out at a time when the production of silk was much more important than to-day, still sufficing for actual necessities. Moreover, the mulberry tree is afflicted with a malady which prevents the plantations from spreading.

In a general way, viticulture has been replacing the culture of the mulberry tree for some years, but it is not impossible that there will be a reaction. It is said that, as a result of the disappointment experienced in the sale of wines in the latter part of 1900, some of the vine cultivators have already planted more mulberry trees than formerly. This fact, while deserving consideration, will not exert an immediate influence on the development of the silkworm industry. It must be remembered that for ten years the product of silk has remained practically stationary in France.

The production of healthy and well-selected seeds, however, is growing. Foreigners appreciate French brands, and the export figure shows a very satisfactory increase. In 1900, France exported 29,274 kilograms (64,537 pounds) of seeds. This is the highest figure so far attained; it represents a value of about 7,000,000 francs ($1,400,000). To the quantity of seeds exported should be added the 205,584 ounces put to hatching in France, making a total production of about 1,400,000 ounces. All silk-producing countries, except those of the Far East and India, take these seeds in increasing quantities.

It is interesting to note that the producers of seeds have begun to cross their breeds, thus enabling them to supply the preferences of other countries; and this probably accounts for the development of the trade.

The silk mills operate in three different ways: First, "à façon," in which the cocoons are woven into skeins for a third party, based upon an agreed price for the work; second, "à forfait," in which the proprietor of the basins weaves upon his own account cocoons which he has bought; third, "de compte à demi," in which the proprietor of the basins shares with the silk merchant, or with some outside person, in buying the cocoons and in selling the raw silk, retaining a certain sum for the work performed.

The labor done by hands working for themselves or on shares is

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the most extensive, as the profits of the spinning are often wiped out in the commercial transaction of buying the cocoons and selling the silk; the profit or loss depends much more upon the rise or fall of silk quotations than upon the value of the labor calculated in the cost of the silks.

In a general way, one may say that in 1900 the cost of the work of weaving has been sensibly raised, due to different causes, in which figure the rise of salaries and the high price of coal. Complaint is made that in certain sections hand labor is becoming scarce; production suffers, therefore, and general expenses are increased.

French basins have had more than 10,000,000 kilograms (22,046,000 pounds) of cocoons to weave, which is the highest figure reached in a number of years.

The year 1900 has been a very poor year for the reeling of schappe. While the price of threads declined, that of raw material rose.

This branch of the silk industry has suffered much from the popularity of mercerized cotton. The reelers sent to the factories 1,724,200 kilograms (3,801,171 pounds) of material in 1900, as compared with 1,872,300 kilograms (4,128,775 pounds) in 1899. For the last three years the exports have been: In 1900, 272,900 kilograms (601,635 pounds), worth about 5,500,000 francs ($1,100,000); in 1899, 213,500 kilograms (470,682 pounds); and in 1898, 221,800 kilograms (488,980 pounds).

The reeling of schappe is in the hands of a few people, who form powerful groups and possess all the resources necessary for producing a very important quantity of threads of perfect finish. The industry is ready to respond to all the needs of manufacture, as soon as the temporary causes which prevented the sale of schappe in 1900 shall have disappeared.

JOHN C. COVERT,

LYONS, *December 20, 1901.* *Consul.*

THE STAVE TRADE IN FRANCE.

Having received a number of inquiries concerning the future of American staves in France, I have collected the following information, which in some respects duplicates that published in volume 20, part 3, of Special Consular Reports, and also contains new matter and old facts brought up to date.

The principal market for staves in France is at Cette, the center of the French wine-growing industry and the source of supply of a very large proportion of the fine French wines bottled at Bordeaux and in the Bourgogne district and classified as native wines of those

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regions. As the principal importers in Cette have also branch houses in Marseilles and Bordeaux, it follows that an understanding with Cette importers paves the way to business transactions wherever there is any considerable demand for this merchandise. The leading importers of Cette are: Christian Gaffinel (branch house at Bordeaux), J. B. Gairard (principal house at Marseilles, branches at Cette and Bordeaux), Ferd. Petit (branch house at Bordeaux), C. Calixte Gaffinel, Jean Chevallier fils, Gros fils à Vigne, Bouvet et ses fils, and Emile Isenberg.

The principal actual consumers supplying themselves from the foregoing importers are: Léon Nougier and L. Rouane et fils, both at Cette; Bourdial jeune, P. Arnaud fils, and J. Cartier, all at Mèze, Hérault.

Thus far, the importation of American staves has been mainly undertaken by Messrs. Gaffinel, Gairard, and Petit. These three firms are believed to have an understanding and to make their purchases in common, thus regulating the number of staves imported and maintaining prices. It is generally thought that the three concerns named have contracted for from 12,000,000 to 15,000,000 American staves for delivery at Cette and Bordeaux in the year 1902. An Austrian business man has negotiated this business, and a special agent of the Cette firms is in the United States to survey and classify shipments. The c. i. f. prices at Cette range from 54 to 56 francs ($10.42 to $10.80) per 100 staves.

The dimensions of the staves required in Cette are: Length, 1.15 to 1.2 meters (45.2 to 47.2 inches); width, 11 to 16 centimeters (4.3 to 6.2 inches); thickness, 35 millimeters (1.38 inches). These dimensions are for the manufacture of casks to contain from 550 to 600 liters (581 to 634 quarts). Length, 83 centimeters (32.6 inches); width, 11 to 16 centimeters (4.3 to 6.2 inches); thickness, 32 to 35 millimeters (1.26 to 1.38 inches) for the manufacture of casks to contain from 250 to 300 liters (264 to 317 quarts).

American tank staves of large dimensions are not much sought, because the wood has frequently been found to be worm-eaten or spoiled by cramp irons or nails, which American manufacturers employ in constructing rafts for river transportation.

I have reliable information to the effect that Ferdinand Petit would be disposed to represent another American manufacturer, if suitable conditions could be obtained. C. i. f. prices would have to be within 62 to 64 francs ($11.96 to $12.35) per 100 pieces for the first-described dimension and 53 to 55 francs ($10.22 to 10.61) per 100 pieces for the last-mentioned sizes. The wood must be of the first class, all second-class and unclassed dimensions being allowed for according to locally established custom.

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American manufacturers able to dispose of large quantities should carefully consider their policy and determine whether they would be better served by dealing with one of the houses in the combination or by making an independent connection.

The precise situation in Cette is rather difficult of explanation within limited space. Certain it is that the importers have been doing a flourishing business, but not without giving rise to strong complaints from consumers, who constantly assert that the material has never been so expensive. While it is a fact that the importers have thus far realized handsome profits, it is also true that the gradual reduction of the available timber area in Austria has been a natural cause of increasing prices.

ROBERT P. SKINNER,
MARSEILLES, *December 6, 1901.* *Consul-General.*

SEWER SYSTEM IN NANTES.

The improvement of the sanitary condition of Nantes has been discussed by the council and citizens for the past ten years. At present, water is taken from the River Loire, along the banks of which are numerous manufacturing establishments. According to a recently published report, less than half the city is properly sewered. The sewage from many of the buildings passes into cesspools, which are emptied from time to time, but their contents contaminate the subsoil. Some years ago, a Marseilles company agreed to construct a system of sewers throughout the city for 20,000,000 francs ($3,860,000), but the offer was rejected as too expensive, and the city council agreed to do the work, which has been commenced. The main collector will pass through the city along the right bank of the Loire, and its dimensions will be 86.6 by 51.18 inches. There will be four secondary collectors, 78.74 by 39.37 inches in diameter. The materials used in construction will be stone and brick, laid in cement. The combined length of the city streets which should be sewered is about 62 miles, and there are 25 miles of old sewers. The city will soon include within its limits the suburbs of Dulon and Chantenay, which will give it a population of about 200,000.

JOSEPH I. BRITTAIN,
NANTES, *November 27, 1901.* *Consul.*

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PAYMENT OF CUSTOMS DUTIES IN GOLD IN SPAIN.*

With a view to reducing the high premium on gold and foreign currencies, the Minister of Finance has brought forward a measure, which has just been sanctioned by the Cortes, whereby the customs duty on certain imports is to be paid in gold.

One of the causes of the high rate of exchange, apart from the unfavorable financial situation of the country, has undoubtedly been the necessity, on the part of the Government, of periodically obtaining gold drafts to meet its liabilities in foreign markets.

It is claimed for the new scheme by its supporters that it will enable the treasury to secure gold or foreign drafts from the merchants, instead of being obliged, as hitherto, to apply direct to the bankers, who were able to control to a considerable extent the rate of exchange for their own interests.

Payment in gold will not be required for all customs dues; only certain articles of commerce have been selected, which, being imported in large quantities, are the best suited to meet the case, the object of the Government being to obtain through the customs as much gold as is required to cover the foreign coupon.

In order that the payment of the duties in gold should not entail an increase in the tariff, a rebate on the duty has been fixed according to the following scale:

Mean rate of exchange.	Rebate in duty.
	Per cent.
40 per cent and upwards	30
30 to 40 per cent	25
20 to 30 per cent	20
10 to 20 per cent	10

Should the exchange fall below 10 per cent premium, no rebate in the duty will be conceded.

The Government will at the end of each month, in accordance with the official quotations of the Madrid bourse for checks on Paris during that time, fix the mean rate of exchange for the ensuing month.

The following goods are those on which the duty will be paid in gold:

*In transmitting a report on the same subject, Consul Bartleman, of Valencia, notes that the decree went into operation December 1, 1901.

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Coal and coke.

Petroleum and mineral oils leaving over 60 per cent residuum when distilled at 300° C.

The same leaving 20 to 60 per cent.

The same leaving under 20 per cent.

Camphor, mineral lubricating oils, vaseline, and the mixtures of these products with animal or vegetable oils or fat.

Benzene, gasoline, and similar products.

Cod and stock fish.

Fish powder.

Wheat.

Wheat flour.

Cocoa beans (not roasted) and the cocoa shell, the product of and imported direct from Fernando Po.

The same when imported from other countries.

Ground cocoa, cocoa paste, and cocoa butter.

Coffee beans, cakes, the product of and imported direct from Fernando Po.

The same when imported from other places.

Roasted ground coffee; chicory, roasted and not roasted; and other similar products.

All kinds of cinnamon and imitations thereof.

Pepper, cloves, and other spices and imitations thereof.

Tea and imitations thereof.

For the payment of the duties, not only Spanish gold coins will be accepted, but also the gold coins of the nations forming the Latin Union, notes of the Bank of France, bills or checks on Paris, London, Brussels, or Berlin.

JULIUS G. LAY,
Consul-General.

BARCELONA, *December 10, 1901.*

IMPORTS AND EXPORTS OF MACHINES.

In the latest quarterly number of the Statistics of the German Empire, some very interesting figures are given of the machine trade of certain countries. The following table shows the relative importance of each country and also the progress it has made in the last decade:

Country.	Imports.		Exports.	
	1891.	1900.	1891.	1900.
Germany	$7,711,200	$24,038,000	$16,065,000	$54,454,400
Belgium	2,991,500	10,595,700	7,893,700	11,136,100
France	10,653,600	27,309,500	8,762,200	11,850,200
England	11,679,600	18,492,700	76,890,700	95,383,400
Austria-Hungary	7,165,900	10,576,300	1,786,400	3,126,200
Switzerland	3,107,300	5,635,600	3,956,500	9,302,600
United States	2,900,000	3,300,000	19,500,000	71,600,000

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According to this table, England, the United States, and Germany are the most important exporting countries. Switzerland's export has increased fairly well. The table also shows that the machine import has grown considerably since 1891, and that in France and Austria-Hungary there is an unusually large demand for machinery—a fact which our manufacturers should not lose sight of. I find it impossible to obtain a list of the machines imported by these different countries, which no doubt would be of interest to our trade.

J. F. MONAGHAN,

CHEMNITZ, *November 15, 1901.* *Consul.*

ECONOMIC CONDITIONS IN GREAT BRITAIN.

The following extracts are from the annual report of Consul Boyle, of Liverpool:*

To an American observer, the economic conditions now existing in England are of great interest and importance from the standpoint of international trade and commerce. These conditions have been for some time the subject of a general and spirited discussion by the British press and platform. There are possibilities that the resultant developments may be such changes as will radically affect the entire industrial and social life of the British nation; and, furthermore, there is a large and ever-increasing number of thoughtful and well-informed people who express the serious belief that if these changes do not come about in the near future Great Britain will be permanently relegated to the third position in the ranks of the world's trade and commerce.

Trade generally is not as good now as it was a year ago, or two years ago. The year 1900 was most prosperous, but all authorities agree that British trade has received a check, dating from the early part of last January. The September quarterly returns for the United Kingdom show a decrease of both imports and exports, and the returns for the ten months of 1901 ended October 31 show a decrease of exports amounting to $17,977,964 as compared with 1900. A rather gloomy view of the future prevails, and the cry is going up from commercial bodies, from political speakers, from economic writers, and from the newspapers that "something must be done." Even a year ago, or two years ago, when trade was exceptionally good, there were many complaints of the successful rivalry of other countries, but now that the era of good times seems about to be replaced by a period of dullness, if not of actual bad trade, the complaints are louder and more general. When the war in South Africa

* To appear in full in Commercial Relations, 1901.

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is over, there is bound to be a popular demand for legislative action, and the indications are that the Government will be compelled to devote itself to the more earnest consideration of matters relating to the trade and commerce of the country. An observer of the public trend of things can not but be impressed with the fact that during the last two or three years there has been manifested in England a widespread and growing belief that unless great changes are brought about this country is doomed to take a rearward place in the commerce of the world; but it is proper to add that these forebodings are controverted by some of the leading manufacturers and commercial authorities in the country. It is conceded that in manufactures Great Britain has within the last few years failed to meet the competition of the United States and Germany. Those optimistically inclined plead exceptional and marvelous natural advantages so far as the United States is concerned, and, as to Germany, the unsatisfactory financial and commercial situation just now prevailing there is cited as an instance of a country "booming" itself too rapidly. There are fears expressed that even in the carrying trade the supremacy of Great Britain is threatened.

A great many reasons are advanced for this condition of affairs, and there are just as many, and probably more, panaceas suggested. Without indulging in any theories of my own, I present below, in brief, a statement of the different views current in England bearing upon this subject.

THE "FAIR-TRADE" MOVEMENT.

While most of the leaders of both the great opposing political parties seem to be (at least publicly) as strongly wedded to free trade as ever they were, there is undoubtedly a strong sentiment among the masses, and one which appears to be getting stronger all the time, in favor of changing the present fiscal policy of this country, so as to bring about what has become popularly known as "fair trade," which, in fact, is nothing but reciprocity. Protection per se is not very much advocated, but it is significant that many of the most widely circulated papers of Great Britain are now boldly advocating a policy of "fair trade," or "do to others as they do to you;" and this doctrine has become quite popular within the club organizations of the dominant party, although it is proper to state that those responsible for official politicial declarations are careful not to commit themselves to this policy. It is altogether probable that if the United Kingdom passes through a period of hard times within the near future, this question will become a leading one. Against this situation there must be set the national dislike to change; a traditional respect, amounting almost to reverence, for the "established institutions" of the country (of which free trade is one of the

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most fundamental); and the opposition of certain vested interests directly benefited by free trade and of the "Cobden school" of political economists, who hold to the view that the policy of free trade is not only sound political ethics, but is in financial results the best, especially under the peculiar circumstances of this country.

EDUCATIONAL REFORMS.

There is a universal acknowledgment that the educational status of the United Kingdom is below that of most of the other leading nations of the world, and particularly the United States and Germany, and this is frequently given as one of the chief reasons why she is being outstripped in manufactures. This subject of education is a very thorny one in England, owing principally to the fact that there are two systems of management—one, the board school management (similar to the American public school system) and the other the denominational management. Recognizing the great differences of opinion there are upon this phase of the educational problem, efforts are being made by the respective authorities to secure uniformity of methods and results, while at the same time raising the standard. Great progress has been made in London, Liverpool, Birmingham, Manchester, and some other large cities. This advancement is true generally of primary education; and it is also true that the authorities, both national and local, have made great strides during the past three or four years in technical education. Liverpool is taking a front place in this movement, its new technical school being one of the largest and finest in the Kingdom, and is also taking a leading place in the new movement for popular instruction in foreign languages.

BRITISH VS. AMERICAN LABOR.

The attitude of workmen generally, and particularly of trades-unionists, in regard to labor-saving machinery has been warmly discussed through the newspapers ever since the great strike of the engineers a couple of years ago. The charge is made that there is a general disposition on the part of British workingmen to obstruct as much as possible the use of labor-saving machinery, and to limit its output whenever the employers add machinery to their plant; and also that in certain trades the rule is "one man, one machine," whereas in America one man will attend to two or three machines. It is furthermore charged that there is an increasing disposition on the part of British workingmen to shirk work, and to use all expedients to perform as little labor as possible during the hours for which they are paid. These charges are made with great particularity against trades-unionists. There is, it is to be noted, a growing tendency throughout the country to shorten the hours of labor,

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while at the same time there is an upward movement in wages. As a rule, trades-unionists deny the charge of obstructing the use of labor-saving machinery and limiting the output; and they retort that employers are lacking in enterprise in not fitting up their factories with up-to-date plants. It is undoubtedly true, however, that, speaking generally and quite apart from the question of trades-unionism, English manufacturers find it almost impossible to get the same amount of product from machines as is obtained in America. There are two reasons that account for this, independent of any agreement, express or implied, on the part of trades-unionists to limit the output. The first reason is that, as a rule, the British workman is not as adaptable as the American workman—he does not so readily get command of new appliances as the American workman; and the second is that it is not the custom of the country for an Englishman, whether mechanic, clerk, or laborer, to work as hard as an American.

English trades-unionists who have recently visited the United States as delegates to labor conventions, or in a representative capacity to make observations, as a rule report that American mechanics and factory hands work too hard. An American manager of a match factory established over here with American machinery once told me that 400 people in a factory in America turned out more matches than 700 people over here, with identically the same machinery—and incidentally it may be remarked that practically all the machinery used in the English match factories is American, and has been so for many years. In some respects, the English workman is more "independent" than the American workman—that is, he will not endeavor to make himself so "handy," and will often refuse to do anything outside a certain line rigidly laid down by the custom of his craft generally and by his trade union in particular. American manufacturers who establish factories here find that, although the English workman is thorough in what he does, he is not only slow in comparison with an American workman, but will sometimes strike on the slightest provocation—although it is observed that within the last two years the leading spirits among trades-unionists have taken a somewhat pronounced position against strikes, except as a last extreme resort. In this connection, it is worth noting that, as a rule, strikes in England are more stubborn than in America, although it is the exception for violence to be used here. Although there is a greater division of labor in America, yet oftentimes twice as many men are required in England to do a certain job as would be required in America, as each man is very jealous lest a workman in another allied trade should do the smallest piece of work which the rules of his trade say should be done by him, and him alone. For instance, when the town hall of Liverpool

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was recently being remodeled in the interior, there was a strike for several months, owing to the fact that some cabinetmakers did some work which the joiners claimed should be done by themselves alone. Within the last few days, a strike was averted by arbitration at Laird's shipbuilding yard (where the *Alabama* was built), on the Mersey, opposite Liverpool, the dispute being as to whether the engineers or the shipwrights should place an electric dynamo in position. And there is now a controversy, with threats of a strike, at a port just north of here, between carpenters and shipwrights, as to who, under trades-union rules, had the right to construct a pier.

A few weeks ago, some painters who were redecorating the interior of a church in a midland town ceased work because women were employed to clean the droppings of paint on the pews, and the employers had to finish the job themselves. And quite recently in a seaside town there was a strike of teamsters because their employer refused to discharge a driver who had made a journey to a neighboring town three hours quicker than they themselves had been accustomed to take. A Liverpool architect once told me that he had two large buildings on which there had not been a stroke of work done for over three months, for the reason that a strike had been declared because a plumber's apprentice had been caught by the union "delegate" making a joint which the union rules stated should be done by a journeyman. I was informed by the architect that within the last ten years the cost of construction had increased 15 per cent—owing partly to increase of wages, but principally to the limitations as to a day's work. A cut-glass manufacturer residing in Liverpool tells me that notwithstanding increased mechanical facilities, the output per man has decreased fully 25 per cent during the last dozen years. I could multiply instances of this condition of affairs, which permeates all grades of working people here. Even household servants are imbued with opposition to doing the slightest thing but what is strictly in line with their particular employment. It can readily be seen that the prevalence of this cast-iron, hard-and-fast custom adds enormously to the ultimate cost of labor, although the individual wages actually paid here are much lower than in America. Americans who have been inclined to come to England to establish factories have often been forced to abandon their intentions because of the disadvantages they would be under by reason of the system above explained.

In addition to the slowness of the British workman as compared with the American, there is a widespread feeling among working people here that they owe it to themselves not to exceed a certain amount of labor; and here again the "independence" of the British workman shows itself, for he will often absolutely refuse to do any more than a certain "stint," even though he be threatened

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with dismissal in consequence. Many workmen deem it a duty to themselves and to their fellow-workmen to make a job last as long as possible. Two justifications are given, one being that if a workman does more than a certain amount of work he is robbing a fellow-workman of a job—and the loyalty of English workingmen to each other and their repugnance to doing anything against a fellow-workman which might be considered "mean" are class characteristics. The other argument is that as the employer pays a wage no larger than he is obliged to do, the workman is justified in performing as little work as he can. There is no doubt that class distinctions here, and the fact that "once a workman, always a workman" is the rule (although there are many exceptions, some of them notable), are mainly responsible for the acknowledged indisposition of many British workmen to do their "level best" in the sense in which it is understood in America. Trades-unionism has an influence here far beyond what it has in America, and it is but just to say that there is greater need of trades unions in this country than in America. Undoubtedly, English trades unions have brought about great reforms in the condition of factories, as to the hours of labor, in regard to the employment of children, etc.; and there are indications that the alleged restrictive policy of trades unions, express or implied, is gradually being modified.

LABOR-SAVING MACHINERY.

The small extent to which up-to-date labor-saving machinery is used here, as compared with America, and even Germany, is just now a fruitful topic of discussion. The rule here is for a plant or machine not to be replaced until it is absolutely worn out. The question is, "Will it do?" not, "Can it be improved?" The fault is, so the workmen say, that of the employers, and the latter retaliate by blaming the workmen. The handicap to which English manufacturers are subjected by reason of their employment of antiquated plant is generally recognized by the newspapers and by speakers at conventions of chambers of commerce and manufacturers, and the agitation has undoubtedly led to great improvements in this regard.

IMITATION OF AMERICAN METHODS.

To sum up, there is a general recognition of the fact that England can not go on as she has been doing for the past quarter of a century, dating from the time when she was practically the manufacturing and commercial monopolist of the world. There is a widespread movement for the copying of American methods in organization and methods of trade, and within the past year a number of delegations of members of chambers of commerce, railroad

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men, and mechanics have gone to the United States to make practical observations. One enterprising Liverpool shipping firm has taken over several delegations of trades-unionists to the United States and Canada, and will bring them back free of charge. Whether the newly awakened movement to meet outside competition will be able to overcome the traditional conservatism of the British people is difficult to say. The probabilities are that foreign competition will go on its conquering way until hard times overtake the British people; that then, with their habitual thoroughness, they will undertake the task of reforming their educational system, of modernizing their system of manufacture, and of changing the restrictive customs and habits of the work people.

In the meanwhile, now is the time for American manufacturers to get a stronger foothold in this country. The introduction of our goods into England has enormously increased during the past year. At present there is a general demand, particularly in Liverpool, for American agricultural implements, furniture (both office and household), boots and shoes, electrical appliances, bolts, nuts, etc. One suggestion made several times in these reports is reiterated with emphasis: Do not let considerations of cheapness or greater profits lead to deterioration of the original high standard of goods.

THE DECLINE OF COMPANY PROMOTING IN SCOTLAND.

The various branches of industry and trade in the United Kingdom are largely in the hands of limited-liability companies. As a rule, when any private business has become specially successful or has gained the reputation of being "a good thing," the concern has been "floated" and a certain number of the shares sold to the public. The institution of joint-stock companies with limited liability was authorized in 1862 by an act of Parliament "for the incorporation, regulation, and winding up of trading companies and other associations." Several amendatory acts were passed from time to time, up to August, 1893, chiefly designed to prevent fraudulent practices in company promoting. The task of the law-making body was difficult, as the ways of a shrewd schemer in business enterprises of a speculative nature are well-nigh past finding out, until they reveal themselves in the results. From 1895 onward, the public seemed to have unlimited faith in the limited-liability trading concerns, which faith was not fatally shaken even by the disclosures in the Hooley case two years ago, showing how, by divers arts and tricks, a clever company promoter had induced the people to invest heavily in water and wind. But Parliament was

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profoundly impressed with the necessity for a further effort to control the flotation of private concerns, and in 1900 a law was enacted amending the companies act in important respects, especially providing stringent regulations in regard to the prospectuses of these joint-stock companies. Sections 9 and 10 are:

PROSPECTUS.

Section 9.

(1) Every prospectus issued by or on behalf of a company or in relation to any intended company shall be dated, and that date shall, unless the contrary be proved, be taken as the date of publication of the prospectus.

(2) A copy of every such prospectus shall be signed by every person who is named therein as a director or proposed director of the company, or by his agent authorized in writing, and shall be filed with the registrar on or before the date of its publication.

(3) The registrar shall not register any prospectus unless it is so dated and signed. No prospectus shall be issued until so filed for registration, and every prospectus shall state on the face of it that it has been so filed.

Section 10.

(1) Every prospectus issued by or on behalf of a company, or by or on behalf of any person who is or has been engaged or interested in the formation of the company, must state:

(*a*) The contents of the memorandum of association, with the names, descriptions, and addresses of the signatories, and the number of shares subscribed for by them, respectively; and the number of founders or management shares, if any, and the nature and extent of the interest of the holders in the property and profits of the company; and

(*b*) The number of shares, if any, fixed by the articles of association as the qualification of a director, and any provision in the articles of association as to the remuneration of the directors; and

(*c*) The names, descriptions, and addresses of the directors or proposed directors; and

(*d*) The minimum subscription on which the directors may proceed to allotment, and the amount payable on application and allotment on each share; and in the case of a second or subsequent offer of shares, the amount offered for subscription on each previous allotment, and the amount actually allotted; and the amount, if any, paid on such shares; and

(*e*) The number and amount of shares and debentures issued, or agreed to be issued, as fully or partly paid up otherwise than in cash, and in the latter case the extent to which they are so paid up, and in either case the consideration for which such shares or debentures have been issued or are proposed or intended to be issued; and

(*f*) The names and addresses of the venders of any property purchased or acquired by the company, or proposed so to be purchased or acquired, which is to be paid for wholly or partly out of the proceeds of the issue offered for subscription by the prospectus, or the purchase or acquisition of which has not been completed at the date of publication of the prospectus, and the amount payable in cash, shares, or debentures to the vender, and where there is more than one separate vender, or the company is a subpurchaser, the amount so payable to each vender; and

(*g*) The amount, if any, paid or payable as purchase money in cash, shares, or debentures, of any such property as aforesaid, specifying the amount payable for good will; and

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(*h*) The amount, if any, paid or payable as commission for subscribing or agreeing to subscribe, or procuring or agreeing to procure subscriptions, for any shares in the company, or the rate of any such commission; and

(*i*) The amount or estimated amount of preliminary expenses; and

(*j*) The amount paid or intended to be paid to any promoter and the consideration for any such payment; and

(*k*) The dates of and parties to every material contract, and a reasonable time and place at which any material contract or a copy thereof may be inspected; provided that this requirement shall not apply to a contract entered into in the ordinary course of the business carried on or intended to be carried on by the company, or to any contract entered into more than three years before the date of publication of the prospectus; and

(*l*) The names and addresses of the auditors, if any, of the company; and

(*m*) The full particulars of the nature and extent of the interest, if any, of every director in the promotion of or in the property proposed to be acquired by the company, with a statement of all sums paid or agreed to be paid to him in cash or shares by any person either to qualify him as a director or otherwise for services rendered by him in connection with the formation of the company.

(2) For the purposes of this section, every person shall be deemed to be a vender who has entered into any contract, absolute or conditional, for the sale or purchase, or for any option of purchase, of any property to be acquired by the company, in any case where—

(*a*) The purchase money is not fully paid at the date of publication of the prospectus; or

(*b*) The purchase money is to be paid or satisfied wholly or in part out of the proceeds of the issue offered for subscription by the prospectus; or

(*c*) The contract depends for its validity or fulfillment on the result of such issue.

(3) Where any of the property to be acquired by the company is to be taken on lease, this section shall apply as if the expression "vender" included the lessor, and the expression "purchase money" included the consideration for the lease, and the expression "subpurchaser" included a sublessee.

(4) This section shall not apply to a circular or notice inviting existing members or debenture holders of a company to subscribe for further shares or debentures, but, subject as aforesaid, this section shall apply to any prospectus whether issued on or with reference to the formation of a company or subsequently; provided that—

(*a*) The requirements as to the memorandum of association, and the qualification, remuneration, and interest of directors, the names, descriptions, and addresses of directors or proposed directors, and the amount or estimated amount of preliminary expenses, shall not apply in the case of a prospectus published more than one year after the date at which the company is entitled to commence business; and

(*b*) In the case of a prospectus published more than one year after the date at which the company is entitled to commence business, the obligation to disclose all material contracts shall be limited to a period of two years immediately preceding the publication of the prospectus.

(5) Any condition requiring or binding any applicant for shares or debentures to waive compliance with any requirement of this section, or purporting to affect him with notice of any contract, document, or matter not specifically referred to in the prospectus, shall be void.

(6) Where any such prospectus as is mentioned in this section is published as a newspaper advertisement, it shall not be necessary to specify the contents of the memorandum of association or the signatories thereto, and the number of shares subscribed for by them.

(7) In the event of noncompliance with any of the requirements of this section,

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a director or other person responsible for the prospectus shall not incur any liability by reason of the noncompliance, if he proves that—

(*a*) As regards any matter not disclosed, he was not cognizant thereof; or

(*b*) The noncompliance arose from an honest mistake of fact on his part.

Provided that in the event of noncompliance with the requirements contained in paragraph (*m*) of subsection (1) of this section, no director or other person shall incur any liability in respect of such noncompliance unless it be proved that he had knowledge of the matters not disclosed.

(8) Nothing in this section shall limit or diminish any liability which any person may incur under the general law apart from this section.

This act went into effect in January, 1901. That it has served its purpose to some extent, at least in Scotland, appears from the following table, which gives the number of companies registered in Scotland during the year, with the share capital of the different classes, as compared with 1900:

Description.	1901.			1900.		
	Number of companies.	Capital.		Number of companies.	Capital.	
Engineering and shipbuilding	28	£1,072,750	$5,220,538	54	£4,237,500	$20,621,794
Shipping and fishing	31	876,392	4,264,962	34	696,700	3,390,491
Property and investment	23	448,500	2,182,625	28	501,500	2,440,550
Chemical manufactures, etc	6	373,000	1,815,205	7	1,080,000	5,255,820
Brewing and distilling	3	351,000	1,708,142	13	370,000	1,800,605
Gold mining	11	350,000	1,703,275	12	414,200	2,015,704
Hotels, clubs, etc	19	221,200	1,076,470	21	148,028	720,378
Coal masters	10	224,600	1,093,016	14	795,000	3,868,868
Weavers and spinners	7	351,000	1,708,142	10	478,000	2,326,187
Drapers and warehousemen	5	179,000	871,237	13	562,500	2,737,406
Printing and publishing	9	162,200	789,346	19	623,700	3,035,236
Tanners and leather merchants	1	120,000	583,980	.....	.....	.....
Sugar companies	3	100,000	486,650	.....	.....	.....
Timber merchants	1	100,000	486,650	9	676,000	3,289,754
Quarries	4	99,000	481,784	7	80,000	389,320
General merchants	2	65,000	316,323	7	88,500	430,685
Horseshoeing company	1	60,000	291,990	.....	.....	.....
Aërated-water companies	3	48,000	233,592	.....	.....	.....
Coopers	1	40,000	194,660	1	12,500	60,831
Boot manufacturers	1	30,000	145,995	2	34,000	165,461
Waterproof companies	2	27,000	131,396	3	38,500	187,360
Laundries	3	26,000	126,529	10	35,500	172,760
Watchmakers and jewelers	2	35,000	170,328	3	37,000	180,061
Gas company	1	20,000	97,330	.....	.....	.....
Theatricals	3	18,500	90,030	2	9,000	43,799
Bakers	1	15,000	72,998	3	100,000	486,650
Builders, etc	3	15,000	72,998	5	36,000	175,194
Dyers and finishers	1	15,000	72,998	3	145,000	705,643
Dairy company	1	10,000	48,665	2	72,000	350,388
Wire weaving	1	10,000	48,665	.....	.....	.....
Fancy-box makers	1	10,000	48,664	.....	.....	.....
Tea company	1	9,000	43,799	.....	.....	.....
Insurance	1	4,000	19,466	2	11,000	53,532
Sports	2	1,000	4,867	10	28,000	136,262
Miscellaneous	10	25,000	121,663	.....	.....	.....

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Following is a comparative statement for the last eleven years:

Year.	Number of companies.	Capital.	
1891	156	£5,312,003	$25,850,863
1892	163	6,613,613	32,185,148
1893	187	8,757,838	42,620,019
1894	207	6,342,460	30,865,581
1895	261	11,317,912	55,078,619
1896	309	18,523,655	90,145,367
1897	332	17,731,323	86,289,483
1898	389	20,661,058	100,547,039
1899	334	13,683,669	66,591,575
1900	345	12,401,613	60,352,450
1901	202	5,512,142	26,824,839

These statistics do not tell the whole story of the remarkable decline of company promoting. Formerly, most of the joint-stock companies were created for the special purpose of putting their shares on the market, while this year more than half the companies registered did not offer their shares to the public; they were converted to the limited-liability basis as a convenient business arrangement, or were combinations of competing firms.

Doubtless, the depression in many lines of trade for the past twelve months has had something to do with the abatement of the flotation fever; but the best opinion here ascribes the change mainly to the above-quoted provisions of the new act of Parliament relating to so-called public companies.

RUFUS FLEMING,
Consul.

EDINBURGH, *December 30, 1901.*

SHIPPING OF EAST SCOTLAND.

For some months, the shipping trade has been in a bad way, owing to the depression in nearly all branches of industry and commerce. At the end of last year, the shipping companies did not foresee any change in the general conditions that had made them prosperous in 1900, and not until cargoes began to fall off and freights to decline in consequence did they realize the fact that the volume of business for 1901 had been greatly overestimated. Last year, goods were cheap, as a rule, and the majority of dealers bought heavily, with a view to selling at a large profit later on; but disappointment awaited them, the demand declining and the surplus on their hands putting further orders out of the question. This was true of all classes of goods, except food products and certain lines of staple manufactures. As a result, importers have been and are now buying cautiously and in small quantities, to fill immediate orders, and the volume of trade has by no means required the great

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number of vessels ordinarily employed. On steamship lines from and to East Scotland ports, rates have dropped to the lowest figures ever known. A few weeks ago, a vessel brought wheat from New York to Leith for 16 cents per quarter (8 bushels). Since that time, however, there has been a slight advance; but the business of the average vessel in the American or colonial trade does not pay expenses. In fact, steamships running between East Scotland and New York that were earning from $6,000 to $10,000 on the round trip in 1900 have, during the past three months, been losing from $2,500 to $4,000 each round trip. Lines between this coast and the Continent have also been seriously affected by the slump in cargoes and rates. That the prospect for business is not especially encouraging appears from the announcement in a local newspaper that a steamer of some 6,000 tons, built two years ago at a cost of about $219,000, is now offered for sale at $158,000. The highest offer so far received is only $146,000. It is further stated that a steamer of 3,550 tons dead weight, built at the end of 1897, for which the owners refused $146,000 nine months since and $131,500 three or four months ago, is now offered under $112,000. A steamer of 3,550 tons dead weight, built in 1889, for which $165,500 was refused in September last year, is now offered for sale for about $119,000; and a steamer of some 3,200 tons dead weight, built in 1889, which was sold twelve months ago for $87,500 and for which $97,500 had been subsequently refused, has recently been disposed of for $54,500. Steamship owners with whom I have talked on the shipping-trade outlook are not discouraged, although far from confident, they have had similar experiences at long intervals in the past. They intend to "keep the vessels in the water" and stand any loss from low freights and light cargoes until there shall be a change for the better, which they do not expect before next spring. Meanwhile, new vessels are in course of construction for east coast companies engaged in the American and Australian trade.

RUFUS FLEMING,
Consul.

EDINBURGH, *November 29, 1901.*

SCOTCH TRIBUTE TO AMERICAN SKILLED WORKMEN.

The Machinery Trust, organized about eight years ago, with a capital of £2,000,000 ($9,733,000) for the special purpose of controlling the manufacture and sale of printing presses in this country, has been gradually extending its influence over this branch of trade and also widening the scope of its operations. The Linotype Com-

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pany was the nucleus of the trust, which rapidly acquired nearly all the important plants in Great Britain for the manufacture of printing presses and supplies; also the patent rights for this country on many foreign presses, and in other cases the privilege of making presses of foreign design for this market on condition of paying a fixed amount as royalty. A few years ago, the trust went farther afield, obtaining the sole agencies for as many foreign articles as possible; and this concern now has a strong grip on the machinery trade in the United Kingdom, still making a specialty of machines for the printing and publishing business. Some of the leading American presses and other American machinery for the printing trade are manufactured in England by the trust. This branch of the business is in its infancy, and I am told by printers and publishers that its success is by no means certain, as there seems to be much doubt about the quality of the workmanship. A large printing and publishing house in Edinburgh that has long had American presses, folders, stitchers, etc., adding to its American equipment every year, always buys its machines through the trust, but invariably stipulates that such machines must be not only of American design, but also of American manufacture. I am informed by a member of this firm that the superior skill of American workmen in fitting machinery of this kind is universally recognized in the trade here. Although assured by the trust that the material used in the manufacture in England is precisely the same as that used in the United States, and that the work is done under the general supervision of American foremen, still he and his partners refuse to place confidence in the English-made machines, distrusting especially the workmanship.

RUFUS FLEMING,

EDINBURGH, *December 9, 1901.* *Consul.*

STONE AND WOOD PAVING IN EDINBURGH.

There is a growing demand in this city for the substitution of wood pavements for granite, especially in the principal streets where the traffic is heavy and noisy. But the municipal authorities, giving attention solely to the question of economy involved, are not disposed to extend the use of wood. Mr. David C. Proudfoot, city road surveyor, who has had long experience in the making and repairing of streets, informs me that the life of wood pavement on a main thoroughfare is ten years, while granite of the best quality will last thirty years if relaid once or twice; and as the cost of wood paving exceeds that of granite, the reason for the municipal preference for stone in street making is obvious.

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Edinburgh is well paved. With an area of 16½ square miles, the city has 82 miles of granite streets, 2 miles of wood pavement, and about 80 miles of the best macadam. No asphalt has been laid, chiefly because of the broken, hilly nature of almost the whole area covered by the city, requiring street gradients which would, it is thought, render asphalt unsafe for ordinary traffic during most of the year.

The wood blocks formerly used for the few streets having this kind of pavement were infused with a creosote preservative—the common, heavy oil from iron-smelting works. A soft-wood block, 9 by 7 inches and 3 inches thick, would take in about 2 pounds of the oil under a pressure of 120 pounds per square inch. The present wood pavements are constructed of Australian "jarrah" hard wood, requiring no creosote, as it contains a natural oil. Blocks 9 by 5 inches and 3 inches thick are laid on a 6-inch concrete bottom with smooth surface, and jointed with cement grout or asphalt. This paving costs about $4.10 per square yard. Nine by 7 by 4 inches granite blocks laid on a 6-inch concrete bed and jointed with gravel cost $3.60 per square yard.

RUFUS FLEMING,
Consul.

EDINBURGH, *December 9, 1901.*

PAVEMENTS IN GLASGOW.

In response to inquiries received on the subject from time to time from American firms, a brief account of the method of street paving adopted in this city is given below.

The material mainly used is granite and whinstone, these being Scottish productions. This material is found to be the most durable; but, in consequence of the excessive noise its use creates, the corporation has for some time been experimenting with smooth paving of different kinds, such as tar macadam, alcatraz, and seyssel. Tar macadam is supplied by a Scotch firm, alcatraz by an American firm, and seyssel by an English firm. These three are of a somewhat similar nature, although the compositions seem to differ. During the present year, 22,228 square yards of street were laid with these materials, in the following proportions: Tar macadam, 17,951 yards; seyssel, 2,283 yards; alcatraz, 1,994 yards. Three streets, not included in the above figures, are being laid with alcatraz. The opinion has been expressed that the result of the experiments so far shows that the seyssel promises best. The alcatraz has been described to me as very satisfactory, but not so good for wear as the English material; however, as the materials are in the experimental

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stage, an opinion as to their respective merits can hardly be ventured as yet. The American article is the cheaper of the two, and the prices of both include maintenance for ten years.

The climatic conditions here appear to seriously affect these forms of smooth pavement. Both American and Scotch firms have at times attributed failure of their work to this cause. The pavement seems to give way readily if there is a heavy rainfall, the result being that the surface soon becomes broken. Suitable provision for this would have to be made. Probably, the best time to commence operations would be in the spring or summer, when the rainfall might reasonably be expected to be at its lowest and the climatic conditions, in general, better.

Paving with wood has not been viewed here with much favor. It has already been tried to some extent in Glasgow, but is entirely absent from the present experiments.

SAMUEL M. TAYLOR,
Consul.

GLASGOW, *December 31, 1901.*

CONSULAR PLAN IN EXPORT TRADE.

A few weeks ago, a young American business man called at the consulate to tell me that one American firm, at least, had followed my plan in export trade and had been wonderfully successful in doing so. I understand that my caller had read and approved of those portions of my trade reports where, in entire agreement with all of my consular colleagues, I have urged that American manufacturers study and regard not only the needs, but even the whims, of foreign consumers; and that, having ample capital and a good working partner, he had put the idea into successful operation. The firm has about eight agencies. In each contract there is a clause binding the manufacturer to make and pack and ship any article in exactly the way the London agent specifies, and no agency is taken from a manufacturer who will not so bind himself in legal form, and the manufacturer is given to understand that this is the most important clause in the contract and that his personal views on foreign markets are not wanted. As an example, my caller told me that last year he sold in great numbers an American-made bicycle built almost on British lines, with double-tube tire and metal rims, and that for the coming season his bicycles will have exact reproductions of standard British bicycle fittings and Whitworth threads.

MARSHAL HALSTEAD,
Consul.

BIRMINGHAM, *November 30, 1901.*

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OPENING FOR AMERICAN OVERALLS IN ENGLAND.

Not long ago, an American stranded here claimed that he could get work if he had a suit of workman's overalls; and in a moment of generosity I went out with the man, and, naturally enough, looked for the kind of overalls used by workmen in the United States—those with a continuation of the front of the trousers in the shape of an apron to the neck, and with cross straps serving as suspenders and buttoning on the rear of the trousers. These overalls have in the United States a big pocket across the chest for tools, and the costume is completed with the kind of coat used here. This type of overalls seemed to be unknown here; but I have since had as a caller at the consulate a tailor for the working classes, who does what he calls "a rough-and-ready trade." He has a son in the United States, and it seems visited this son last summer. He told me that when he was there he had noticed the overalls worn by American workmen, and had since made overalls of the same kind for some of his customers. He said there would be a large sale here for overalls of this type, made by machinery, provided they were made more carefully and of heavier and better material than that used in the United States; and that a correspondingly higher price could be obtained. British workmen, he said, can not afford to wear overalls for a few weeks and then throw them away, as the American workman does, but must make them last a year, and therefore they must be of better material and "wash white."

It occurs to me this information may be of value to American manufacturers of overalls.

MARSHAL HALSTEAD,

BIRMINGHAM, *December 2, 1901.* *Consul.*

ELECTRIC RAILWAYS IN THE ENGLISH MIDLANDS.

The development of electric railways in the midlands has been, from an English point of view, phenomenally rapid. When, in recent reports (March 14 and 18, 1900, and September 26, 1901 *), I prophesied a quick growth to a scope of operations not then contemplated, the idea must have seemed optimistic to American electricians having experience with English methods; but more than partial

* See CONSULAR REPORTS Nos. 249 and 255.

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realization of those prophesies seems imminent. The Nottingham corporation is just completing the fourth section of its city system, and is applying to Parliament for other extensions, demanded by a public which a year ago scoffed at the general idea, but which has, through the operation of the lines already established, received a quick and practical education. These proposed extensions are all within the corporate limits, and by action of the city council this week the costs have been cut below the original proposals, because of the financial condition of the city, which is heavily in debt, owing to the many enterprises undertaken by it within recent years under the policy of municipal ownership, the last statement placing the indebtedness at about $23,500,000. But while the city appears to have reached a present limit, private capital is now prepared to undertake a very large system of suburban and interurban traffic, to be operated in connection with the local systems in the several larger towns involved; and for several of these schemes, which are outlined below, parliamentary powers are being asked for. The two principal plans are promoted by Sir James Kenneth Douglas McKenzie and by Sir Bache Cunard, and the first embraces a large portion of the county of Notts and part of Derbyshire, while the latter relates mainly to establishing a connection of light railways between Nottingham and Derby. If the application is granted, something like a revolution will take place in means of communication between large rural districts and the principal centers of population. The scheme of McKenzie will connect Mansfield with Alfreton, Ripley, Belper, and Ilkeston, and Ilkeston with Nottingham, and also throw out another line between Nottingham and Derby, passing through Beeston and Long Eaton, and giving a connection from a suitable point between Ilkeston and the Derby route.

There is further a proposal to carry a line to Arnold; also to Carlton, and eventually to Burton Joyce. By a third proposal, Hucknall Torkard is to be connected with Bulwell. The scheme embraces a distance of about 70 miles, including the section at Mansfield covering 12 miles, which has already been sanctioned; and the total population to be served approaches 500,000.

One matter in connection with the McKenzie scheme possesses an educative interest. It is proposed to inaugurate a service of workmen's cars from one town to another over the whole system. These, of course, would have to be run at cheap rates, and the suggestion is that half—or less—of the ordinary fares would be charged—say, 1d. (2 cents) for 4 miles.

At present, the means of supplying current for the working of the railways does not exist, but this will not present any difficulty. The promoters are willing, where local authorities generate their

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own current, to make terms with those bodies to supply what is required, but failing that, it is likely that arrangements will be made with the proposed Derbyshire and Nottingham Power Company. This company, it may be added, already proposes to establish generating stations at Ilkeston, Colwick, Trowell, and Warsop.

As to the carrying out of the works, the general engineering of Sir Douglas McKenzie's scheme will be under the control of Mr. John Fell, a well-known tramway expert. The work, as already indicated, is divided into two sections. That which embraces the southern portion, including the lines which touch Nottingham, is in the hands of Mr. C. H. Gadsby, of Westminster, who has carried out many important railway works; while the northern section has been intrusted to the Birmingham firm of engineers (Messrs. A. Dickinson & Co.), who have done a good deal of work of this character in this country, and have carried out many large schemes in Spain, Cape Colony, etc.

Altogether, this proposed linking of city with private enterprise, thus suddenly covering a large territory in the conservative midlands with a network of modern electric lines, is an astounding development for England. The scheme, however, is only the forerunner of what will follow elsewhere in the provinces, as well as in London. The effect of this electrical development upon existing railway lines, whose earnings are already at the maximum and whose dividends are yearly decreasing, will soon present a serious question.

S. C. McFARLAND,
Consul.

NOTTINGHAM, *December 10, 1901.*

MUNICIPAL TRAMWAYS IN COLOGNE.

The first street railways in Cologne owed their origin, as did many similar undertakings in Germany, to the enterprise of foreign capitalists, the concession being granted to a Belgian company in the year 1878. A fresh concession was granted by the town for each line to the outlying suburbs, and some of the concessions would not have expired until the year 1924. The city authorities appointed, in 1897, a committee to ascertain on what terms the company would dispose of the property.

A contract was finally agreed upon, the most interesting terms of which are given below.

The city of Cologne was to pay to the street railway company: (1) An annual sum of 1,000,000 marks ($238,000) from January 1, 1899, to June 30, 1913, amounting in all to 14,500,000 marks

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($3,451,000); (2) from 1903, 25,000 marks ($5,950) for each year, until June 30, 1913.

All the lines passed, without any indemnity other than that specified in this contract, into the possession of the city. The city took possession of all real estate, buildings, and accessories used by the company.

The actual cost to the town, therefore, including the cost of any buildings they might subsequently take over, was in round figures 16,500,000 marks ($3,927,000).

For the conversion of the existing lines into electric traction and for the laying of one or two new lines, the city granted an appropriation of 18,000,000 marks ($4,284,000). The overhead-wire system was decided on, and one section was opened for traffic on October 15. The installation was carried out by Messrs. Siemens & Halske, of Berlin.

In 1898, the clear profits amounted to 1,028,000 marks ($244,600), and, as the profits have increased regularly, it is hoped that in 1914 they will amount to 2,380,000 marks ($566,400).

The fares charged at present are:

	Marks.	
Yearly tickets, good on all lines	120.00=	$28.56
Monthly tickets:		
Good on all lines	10.00=	2.38
Good on any one line	7.00=	1.66
Ordinary fares:		
For maximum distance	.15=	.035
For minimum distance	.10=	.024
Children under 10 years of age, maximum distance	.05=	.012

Persons attending educational institutions may secure commutation tickets whereby they are allowed to ride the maximum distance for 5 pfennigs (1.2 cents).

The management of the railways is in the hands of a committee of the town council, the actual manager being appointed by the council, and having the usual staff of engineers, inspectors, etc., whose salaries are the same as those paid by similar concerns; the exact amounts are not obtainable.

The motormen are paid wages of 3.50 marks (83 cents) and the conductors 3 marks (71.4 cents) per day of ten hours, with one day a fortnight free to compensate for the fortnightly Sunday work.

The town may at any time let or sell the right to work the railways, should it be found that this would be most satisfactory; but the general impression is that when the final payment has been made to the old company, the profits will in a short time amply repay the initial expenditure.

CHAS. E. BARNES,
Consul.

COLOGNE, *December 4, 1901.*

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EXPOSITIONS OF AUTOMOBILES, CYCLES, AND SPORTS AT BRUSSELS.

In view of the growing interest in mechanical traction, our manufacturers of automobiles, cycles, etc., may care to learn that, in the early spring, two international exhibitions of automobiles, cycles, etc., are to be held in Brussels. From the 8th to the 17th of March, 1902, an International Exposition of Mechanical Locomotion will be held in the grand hall of the palace in the Park Cinquantenaire; from the 15th to the 23d of the same month, the Tenth International Exhibition of New Locomotion (automobiles, cycles, sports, and industries connected therewith) will be held at the Pole Nord, Brussels.

In the international exposition at the Park Cinquantenaire, there is to be a section devoted to aërostatics, organized by the Aëro Club of Belgium, and under the direction of the aëronaut Mr. Capazza, who will exhibit two of his balloons, one torn and worn, accompanied by his parachute, and the other inflated. The exhibition will include every kind of known mechanical locomotion, automobile, velocipede, aërial, electric, maritime, and nautical. Trials of aërial locomotion will take place in the Park Cinquantenaire during the exposition.

As regards the disposition of eventual profits, the Belgian Syndical Chamber of Automobiles has decided to make the following division: Twenty per cent will be set aside as the nucleus of a fund; 30 per cent will be used in experiments, such as races, competitions, trials, etc.; and 50 per cent will be returned to exhibitors, who will thus share directly in the profits of the exposition and have the chance of regaining a part of the amount expended by them for space. In this way, constructers and agents may participate without incurring very great expense.

I attach translation of programme.

GEO. W. ROOSEVELT,
Consul.

BRUSSELS, *December 18, 1901.*

[Translation.]

The programme of the proposed exhibition is as follows:

CLASSIFICATION.

1. Automobiles of all kinds.
2. Cycles.
3. Material for construction.
4. All kinds of tires.
5. Detached parts.
6. Motors.

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7. Trimmings and accessories.
8. Aërostatics and navigation.
9. Various sports.
10. Shooting, hunting, and fishing.
11. Costumes.
12. Bibliography.
13. Sporting association.

Dimensions of exposition hall, about 75 by 200 meters.
Space price, 12 francs ($2.316) per square meter.
Decoration and lighting under supervision of committee.
Removal of merchandise at exhibitor's expense.
Diplomas will be awarded exhibitors.

TELEPHONES IN BELGIUM.

On account of dissatisfaction with the present system of telephone subscription (by which all subscribers are assessed alike for yearly local privileges), the Minister of Railways, Posts, and Telegraphs has decided that it will be abandoned in favor of the more rational message system, which is expected to bring about an enormous increase in telephonic communication.

It may be interesting to watch the movement here, because in Belgium, probably more than in any other country of Europe, the most recent American practice in telephone construction is followed.

As introductory, it may be said that, in 1895, at an expense of, roughly, $1,200,000, the Belgian Government obtained a monopoly of telephonic communication, absorbing the interests of the Compagnie Belge du Téléphone Bell, the Compagnie Liégois du Téléphone Bell, and various other small companies.

LOCAL SERVICE.

For telephonic purposes, Belgium is divided into seventeen zones or areas, each with a large central exchange. These zones are not arbitrarily assigned, but allotted, and very successfully, to obtain the most efficient service. Nearly all the local service of Belgium is dependent upon the single-wire, nonmetallic circuit system; but the Government is slowly making changes. The two zones of Brussels and Charleroi are now nearly entirely equipped with metallic circuits; the zones of Antwerp and Liege are under study.

A subscriber is entitled to communication with any other subscriber in the same zone, irrespective of distance; also to communicate over long-distance lines, at the regular rate, if he deposits at the beginning of each month an amount covering his estimated monthly expenses. He is entitled to telephonic delivery of telegrams which may come to him. The free delivery by telephone of telegrams is a great advantage and the privilege is almost universally used. Mistakes are very rare and are guarded against with the

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utmost care, a key being furnished whereby words not unlike in sound may be clearly defined.

The flat-rate system of subscription varies considerably, in proportion to the magnitude and importance of the locality; thus, the Brussels and Antwerp rate is 250 francs ($48.25); the Charleroi rate, 200 francs ($38.60); and the rate in the five small exchanges built by the Government, 170 francs ($32.81), or for a three years' contract, 150 francs ($28.95). This is for a radius of 1 kilometer (0.62137 mile); longer lines in proportion to the length.

Statistics.

Total number of subscribers	13,620
Increase over previous year	1,277
Total length of wire.....miles	23,365
Increase over previous year.....do	3,479
Total number of messages	47,224
Increase over previous year	5,668
Telegrams received and sent by telephone	1,443,474
Increase over previous year	165,648
Total receipts	$610,300.68
Total expenditures	462,249.58
Net profits	148,051.10

INTERURBAN SERVICE.

The rate for this service is 1 franc (19.3 cents) per message of five minutes, irrespective of distance. The time may be doubled for 1.50 francs (29 cents), but for longer than ten minutes the rate is 1 franc (19.3 cents) each additional five minutes.

INTERNATIONAL SERVICE.

International trunk lines now connect with France, Germany, Holland, and the Grand Duchy of Luxemburg. There are four direct lines between Brussels and Paris. A line with England is under construction. The land lines are now quite finished and the cable is being laid. All the international lines are of the metallic-circuit type.

Rates for international service are for five minutes, and are governed by distance and the period of day or night. Thus:

Distance.	Day.	Night.
	Cents.	*Cents.*
Up to 50 kilometers (31 miles)	29	17
50 to 150 kilometers (93.2 miles)	38	23
150 to 250 kilometers (155 miles)	46	29
250 to 350 kilometers (217 miles)	58	34
Extra 100 or fraction (62 miles)	10	6

Total number of messages	120,075
Increase over previous year	30,560

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PUBLIC TELEPHONES.

Here Belgium is woefully deficient, there being only 100 public telephones in the whole country; often in a large town there is but one such convenience. The rate for sending local messages is 5 cents for five minutes.

GENERAL.

The seventeen zones of telephonic operation cover about one-half of Belgium. It is unlikely that these zones will increase their areas to any great extent. The predominance of single wires will check any great advance in the number of communications after the message system of subscription is instituted, and any increase in the use of the telephone will make the transformation in the matter of metallic circuits slower than ever.

The central bureaus are, for the most part, well constructed and along the lines of the most recent American practice. The great new exchange in Brussels, in particular, is a model of its kind. The simplicity of telephonic communication within a given zone is marked; each zone has one large central exchange, and, as a rule, nearly all the wires of the zone are directly connected with it. In this the Belgian telephone system has a great advantage over the telephone systems of the United States, where the distances are often so great that direct connection with one great central exchange is impossible. The absence of a large number of intermediate exchanges makes any increase in telephonic communication easy of control.

The Government has stated its intention to place all wires in the large towns in underground conduits, but the advance in this matter has been slight. The conduits adopted for Brussels are of vitrified clay pipes of American origin.

As to the out-of-door work in Belgium, as compared with that done in the United States, the only notable difference consists in the use of more iron structures—that is, more iron poles and iron fixtures. In Germany, Switzerland, and Belgium expensive and ornamental iron poles are quite general in the cities.

Nearly all the instruments, exchange paraphernalia, etc., of Belgium are manufactured by the Bell Telephone Manufacturing Company, of Antwerp, and although this company is distinctly a Belgian concern, it is pleasing to note that its output is designed, with slight modifications, in accordance with the most recent American improvements.

Most of the statistics herein contained are for the year 1899, the most recent data obtainable.

GEO. W. ROOSEVELT,
Consul.

BRUSSELS, *December 14, 1901.*

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LONG TELEPHONE LINES IN EUROPE.

Paris is the center of an international telephone wire net; its extreme ends are London, Hamburg, Berlin, and (in connection with the French-Italian line about to be opened) Turin and Milan. The Paris-Berlin line is the longest, with about 625 miles of wire. The Paris-Hamburg line is about the same. The distance from Paris to Turin, measured by an air line, is about 375 miles, and that between Paris and Milan about 470 miles. But all these lines are eclipsed in length by that between Paris and Cologne, not by the direct line, but by indirect connection, often rendered necessary by breaks in the other service. In such cases, a person in Paris desiring to speak to Cologne is connected via Berlin. This roundabout way increases the wire distance about 375 miles, making the total about 1,000 miles. The Cologne Gazette states that this does not impair the distinctness of the message, and no loss of time is noted in using this increased distance.

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *December 4, 1901.*

FIREPROOF TIMBER AND FIRE PREVENTIVES.

The following article I have translated from Kirchhoffs Technische Blätter:

The ease with which certain woods are liable to catch fire, leading to great catastrophes and loss of life, has led to many attempts to discover some preventive for a danger which continually threatens the human race. The subject of impregnating the pores of hard wood with some substance not subject to combustion has long occupied the attention of our chemists. Experiments have been made with a great many kinds of paint, but the moment the timber of a dwelling begins to warp and shrink, cracks are formed which at once destroy the value of the protecting coat of paint. It would appear that the firm of Hülsberg & Co., Charlottenburg, has at last succeeded in making a liquid which is proof against all changes of atmosphere. After the wood has been coated with this liquid, its weight is increased by 20 per cent. Most hard woods, with the exception of the very hardest American productions, can be easily impregnated with this liquid.

The London Daily Mail notes recent experiments with sulphur-dioxide gas. It says that lighted torches thrust into a chamber containing some of this gas were instantly extinguished.

JNO. F. WINTER,
Consul.

ANNABERG, *December 2, 1901.*

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PORT CHARGES AT COPENHAGEN.

The Department has received from the legation of Denmark, under date of December 13, 1901, copy of a statement of the harbor dues in Copenhagen, with a comparison of those in Amsterdam, Antwerp, Bordeaux, Havre, Calais, Bremen, Hamburg, London, etc. It is pointed out that, in view of the fact that light-house charges, beacon dues, governmental taxes, etc., are not payable in the Copenhagen free port, the latter is considered a less expensive place for the discharge and loading of ships than many other ports in northern Europe. The principal expenses to which a ship is subjected in Copenhagen (free port) are noted below:

Description.	Expenses.	
Per cargo of 4,300 tons of general goods, the vessel's net registered tonnage being 2,048 tons:	*Kroner.*	
Pilot, towage, and boat hire	241	$64.58
Harbor dues	328	87.90
Stevedoring	3,460	927.28
Total	4,029	1,079.76
Per cargo of 4,000 tons of grain, the vessel's net registered tonnage being 2,000 tons:		
Pilot and boat hire	228	61.10
Dock dues	320	85.76
Stevedoring	2,020	541.36
Total	2,568	688.22
Per cargo of 4,000 tons of general goods, the vessel's net registered tonnage being 2,000 tons:		
Pilot and boat hire	228	61.10
Dock dues	320	85.76
Stevedoring	3,220	862.96
Total	3,768	909.82
Per cargo of 8,500 bales of cotton, the vessel's net registered tonnage being 1,908 tons:		
Pilot and boat hire	224	60.03
Quayage and harbor dues	305	81.74
Stevedoring (10.50 marks, or $2.50, per 100 bales)	1,531	410.30
Total	2,060	552.07

DISTRIBUTION OF NOBEL PRIZES.

Under date of December 11, 1901, Minister Thomas, of Stockholm, writes:

The prizes offered by Alfred Bernhard Nobel, the Swedish engineer and inventor, to those persons who contribute most materially to benefit mankind in the domains of physics, chemistry, medicine,

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literature, and in the works of peace were awarded this year as follows:

In physics, to Wilhelm Conrad Röntgen, professor at the University at Munich, the discoverer of the Röntgen rays.

In chemistry, to Jacobus Henricus Van't Hoff, professor at the University of Berlin.

In medicine, to Emil von Behring, professor at Halle, the discoverer of the diphtheria serums.

In literature, to Sully-Prudhomme, member of the French Academy.

In works of peace, the prize was divided in two and awarded in equal parts to Henri Dunant, of Switzerland, the leading spirit in bringing about the Geneva Convention and in instituting the societies of the Red Cross, and to Frédéric Passy, national economist, of France. Each of the five prizes is for the sum of 150,782.23 crowns, or more than $40,000. Five prizes of like, or perhaps greater, amount will be awarded every year on December 10.

Alfred Nobel directed that substantially the whole of his vast fortune be used for the benefit of mankind. Though the discoverer of dynamite, he instituted one of his grand prizes for works of peace. His beneficence was as broad as humanity. He was more than patriot; he was the friend of the human race. In his last will, he directed that no consideration whatever be paid to nationality, but that the worthiest be awarded the prize, whether he were Scandinavian or not.

DIRECT ODESSA-NEW YORK STEAMSHIP LINE.

The Deutsche Levante Linie, in conjunction with the Hamburg-American Line, will, in January, 1902, start a direct line of steamers between New York and Odessa.

The combination of these two lines insures the success of this enterprise, as both have a thorough knowledge of the trade relations between the Levant and the United States. The Deutsche Levante Linie sends five steamers each month to Odessa from Hamburg, two of which are classed as express.

It is evidently the purpose of the combination to capture the trade of the discontinued Barber Line, which ran until recently between Constantinople and New York. The new line will run from New York to Malta, Alexandria, Constantinople, Novorossisk, Batum, and Odessa. As will be readily seen, the route and itinerary will enable the new line to practically control the traffic between this part of the world and our Atlantic ports.

I am much pleased with the establishment of a direct line between

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Black Sea ports and New York, but I confess to disappointment that the line is not under the American flag.

I am now in my seventeenth year as consul at Odessa, and during that time have never seen the American flag at the masthead of a traffic steamer.

THOS. E. HEENAN,

ODESSA. *December 20, 1901.* *Consul.*

STOCK COMPANIES IN RUSSIA.

One of the most effective efforts of the Russian Government to increase her industries is the order requiring that almost everything needed by the Government railroads, etc., must be manufactured in Russia. In view of this, the difference in status between a Russian and a foreign company engaged in industrial and commercial business in Russia becomes a matter of interest. The following explanatory article is from the Russian Journal of Financial Statistics, printed by the Russian Minister of Finance:

A Russian company is any joint-stock association which has its registered offices and the place for holding general meetings in Russia. The Russo-Chinese Bank, for example, almost the whole of whose clients are in China, and the Eastern Chinese Railway Company, which works a section of only 70 miles' length in Siberia, are Russian companies, because their registered offices are in St. Petersburg. The Dunaburg-Vitebsk Railway Company (now wound up) had in London its board of directors and an office with furniture, consisting of a table and a few chairs. It held in Russia a line over 100 miles long, and, what was of more value, the right, of which it availed itself largely, to make unlimited appeals to the guaranty of interest. It drew from Russia the whole of its income and all its resources, and yet it was an English company. A Russian company, unless there be clauses to the contrary in its statutes, may have as directors none but persons of foreign nationality; it may have shareholders only abroad; it may employ as managers, engineers, workmen, etc., none but foreigners; but, foreign or Russian, its shareholders can not hold a general meeting, in person or by proxy, except on a given spot within the territory of the Russian Empire. Every Russian company has its statutes published in extenso in the Law Gazette. The statutes are extremely detailed, and all possible precautions are accumulated therein to protect shareholders against the greed or the lack of scruple of founders and directors. The total share capital is strictly defined, and can not be increased or reduced except in pursuance of a power granted by decree and inserted in the Law Gazette. The right of issuing debentures is limited to a certain amount. The exercise of this right is made subject to the previous fulfillment of certain conditions, the payment in full of the share capital, registration of mortgages, and the further approval of the text of bonds by the Minister of Finance. The company's reserves, set apart for a strictly defined use, must be invested in first-class securities. For many years past, the admission to quotation on the Russian bourses of the shares of Russian companies has been allowed only after the publication of the report for the first financial year.

A foreign company, on the other hand, is any joint-stock association formed in accordance with the laws of another country, which has its registered office abroad, even should the whole of its property be on Russian soil, even though it work

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monopolies or privileges in Russia, and even should all its shareholders and directors live de facto within the territory of the Empire, and have all become naturalized Russian citizens. Again, every company is foreign whose statutes have not been published in the Law Gazette, and whose shares have not paid the Russian stamp duties. The authorization granted to foreign companies is generally as concise as the statutes of Russian companies are minute and circumstantial. Once it be ascertained that the statutes of a joint-stock company are in accordance with the laws of the country where it has been formed, the Russian officials do not ask whether those laws sufficiently protect the holders of shares and debentures, whether the founders have not reserved to themselves the lion's share of future profits, or whether the pecuniary resources of the company are not notoriously inadequate to set the concern going. As the shares and debentures of foreign companies can not in any case form the subject of issues in Russia, nor be admitted to quotation on a Russian exchange, it is supposed—perhaps wrongly—that its securities will never find their way into Russian pockets; and to foreign states is left the care of seeing to the quality of the engraved paper made in their territories.

The authorizations given to foreign companies are worded, not with a view to enforce the observation of wholesome principles of distributive justice, but so as to reserve all the rights to circumscribe the operations within the limits marked out by the general laws of the Empire, and to prevent such companies avoiding their proper responsibilities. According to the terms of the authorization, foreign companies accept, as far as concerns their operations in Russia, the jurisdiction of the Russian courts, and submit themselves to the laws, decrees, regulations, decisions, etc., in force, as well as to all prescriptions or inhibitions, legislative or administrative, which may subsequently be made. In particular, they engage to observe the provisions which govern, in Russia, all joint-stock companies, viz: (1) Payment of a variable tax on net profits, and of an impost of 1½ per mille on the paid-up share; (2) filing at the treasury office and publication in the Financial Messenger of the balance sheets and annual reports, and advertising in the same organ the calling of general meetings; (3) prohibition of amalgamating with another company or of modification in the statutes, without having previously obtained the permission of the Russian Government.

The Russian State does not otherwise in any way meddle with the issue of securities by foreign companies. They are at liberty to issue abroad debentures before liberating their shares, before having acquired a square inch of real property, and before even having petitioned for permission to operate in this country, where they will have their sole establishments.

The new law on the fiscal régime of trade and industry frees from any tax the profits of companies, foreign or Russian, when they do not exceed 3 per cent of the capital engaged. The era of profits is about to dawn for the Russian branches of foreign companies.

W. R. HOLLOWAY,
Consul-General.

ST. PETERSBURG, *November 29, 1901.*

NEW RAILROADS IN RUSSIA.

A recent report of the Minister of Ways and Communications furnishes the following information as to proposed extension of existing railroads, as well as the building of new ones.

Work has been commenced at Vologda on the western section of the St. Petersburg-Volga-Viatka line, whose total length is 1,255 versts (832 miles), which includes a branch of 106 versts (70.2 miles).

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The Kaidalovo branch of the Trans-Baikal (Siberian) Railway is now open, and passengers are carried as far as Manchuria, within 18 versts (11.9 miles) of the Russian frontier. Temporary service has been put on between that point and Vladivostock.

No action has been taken on the proposition to build the Moscow-Kishtym-Kamyshin, Astrakhan, and Tchernomorskaia lines; but these are under consideration.

The following is a list of the new lines that have been determined upon:

Railway line.	Length.	
	Versts.	*Miles.*
Kurakhovski branch of the Catherine Railroad	79	52.3
Sokoltchi-Khodorkovo branch of the Southwest Railroad	21	13.9
Zombkovitze-Sontchov branch of the Warsaw-Vienna Railroad	24	15.9
Ekaterinodar branch of the Vladicaucasus Railroad	5	3.3
Avtchal-Sakovo branch of the Kakhetia Railroad	170	112.7
Branch lines of the Maltzov railroads	305	202.2
Kreutzberg-Tukum branch of the Moscow-Vindava-Rybinsk Railroad	160	106
Novogeorgievsk-Plotzk branch of the Plotzk Railroad	74	49
Khristinovka-Rjistchev branch of the Rjistchev Railroad	180	119.3
Odessa-Akkerman line	77	51
Mikhailovka-Tokmak branch of the Tokmak Railroad	84	55.6
Kholm-Lublin branch of the Tomashev Railroad	180	119.3

Railroads in course of construction and open to a temporary traffic are:

Railway line.	Length.	
	Versts.	*Miles.*
Borjom-Bakuriany branch of the Trans-Caucasus Railroad	34	22.5
Voltchansk-Kupiansk branch of the Hursk-Sebastopol Railroad	105	69.6
Alexandrovka-Zinovievo branch of the Moscow-Kursk Railroad	52	34.4
Viazovaia-Ivanovski works of the Samara-Zlatoust Railroad	38	25.1
Pytalovo-Frontier of the Lifland province branch of the Warsaw Railroad	65	43
Merv-Kushka branch of the Central Asia Railroad	295	195.5
Konstantinograd-Lozovaia branch of the Kharkof-Nikolaev Railroad	90	59.6
Alexandropol-Erivan line	141	93.4
Vitebsk-Zlobin line	263	174.3
Kief-Kovel line	423	280
Baikal-Myssovaia branch of the Baikal line	243	161.1
Orenburg-Tashkent line	1,875	1,243.1
Dolguintzevo-Volnovacha, Apostolovo-Kozelsk, and Karavannaia-Debaltzevo branches of the Ekaterininski Railroad	562	372.6

W. R. HOLLOWAY,
Consul-General.

ST. PETERSBURG, *December 3, 1901.*

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EXHIBITION AND CONGRESS OF FISHERIES AT ST. PETERSBURG.*

The International Congress of Fisheries and Fish Culture, at its last session in Paris in 1900, decided to hold the next session at St. Petersburg. The Imperial Russian Society of Fisheries and Fish Culture has received imperial sanction and has completed arrangements for an exhibition, to commence on January 28, 1902. The congress will open on the 22d of February, and both will close March 8.

The exhibition is open to Russians and foreigners. Among its objects are to determine the actual condition of sea and fresh water fisheries, and of other similar pursuits; to acquaint producers and consumers with the various products of fisheries, and with methods of preparing and preserving the same; to exhibit the gradual development and actual state of artificial fish breeding, as well as the various aspects of amateur fishing and angling; to promote scientific research in the interests of fisheries.

The congress will discuss questions pertaining to the present position and needs of fisheries and fish industries from scientific, economical, technical, industrial, and commercial points of view, and will also consider measures for the improvement of these branches of industry.

W. R. HOLLOWAY,
Consul-General.

ST. PETERSBURG, *December 6, 1901.*

BOOT AND SHOE INDUSTRY IN RUSSIA.

In reply to a series of questions proposed by the Lynn (Mass.) Board of Trade† in regard to the boot and shoe industry in Russia, I beg to state that there was a growing demand for American boots and shoes, up to the time that increased duties made their importation impossible.

The largest demand is for top boots. Officers wear an extra quality of calf and patent leather. The Emperor and all members of the imperial family, being officers of the army, are always dressed—at church, ball, or home—in parade or field uniform, with their trousers inside their handsome patent-leather top boots.

The ordinary laborers wear a coarse quality of shoes made of horse leather, which are sold at from 5 to 8 rubles ($2.58 to $4.12) per pair.

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*See ADVANCE SHEETS No. 1124 (August 27, 1901); CONSULAR REPORTS No. 253.
†ADVANCE SHEETS of this report have been sent to the board.

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The finer grades are sold at 25 per cent more than the price of the same quality in Germany or Austria. The better class of Russians wear shoes that cost from 15 to 16 rubles ($7.73 to $8.24). The average price for ladies' shoes is from 5 to 12 rubles ($2.58 to $6.18).

The Russians manufacture a good article of rubber shoes, with American machinery, and export the same to most of the northern countries of the Empire; and the stock of the various companies manufacturing the same pays enormous dividends. There is one large factory in this city making boots and shoes with American machinery, and two or three smaller factories in Poland that also use American machinery; they are all reported to be paying large dividends.

The following is the amount of duty charged on boots, shoes, and other leather goods, in United States money, per Russian pound (14.4 ounces):

Foot wear	$0.77
Leather	.58
Foot wear for ladies	1.53
Ladies' shoes of chamois	.77
Traveling bags, etc	.54
Leather gloves, etc	2.32
Preferential tariff:	
Foot wear for ladies	1.31
Leather gloves	1.97
Manufactures of chamois, etc	1.54

W. R. HOLLOWAY,
Consul-General.

ST. PETERSBURG, *December 10, 1901.*

THE FORESTS OF RUSSIA.

The gradual deforestation of Russia is attracting increased attention throughout the Empire, and the Forestry Society, as well as the forestry department of the Ministry of Agriculture and Domains, are discussing means for regulating the consumption of timber and for propagation. "Wooden Russia," as it is familiarly called, does not appear to be in any immediate danger, as a recent official report states that forests in this country now cover a gross area of 188,000,000 hectares (464,548,000 acres). Among European countries, Sweden comes next, with 18,000,000 hectares (44,478,000 acres) of forest. In Russia, the forests cover 36 per cent of the whole imperial area. The Swedish forests occupy 44 per cent of the total area, and the Austro-Hungarian 32 per cent of the territory of the Dual Monarchy. Reckoned by the population, there are 2

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hectares (4.9 acres) of forest to each inhabitant in Russia, 3.85 hectares (9.5 acres) in Sweden, 4.22 hectares (10.4 acres) in Norway, and 0.28 hectare (0.69 acre) per head in Germany.

The forests have a greater importance for Russians than for people of West European countries, as villages and country houses are largely built of wood, stone and brick houses being almost unknown, and the forests furnish the main sources of fuel supply. While the imperial committee complains that it is private owners who are recklessly devastating the forests and urges that adequate laws and regulations be enacted to prevent this, the Forestry Society calls attention to the fact that, according to the official report of the forestry department of the Ministry of Agriculture and Domains, the Crown forests furnished a revenue of 17,600,000 rubles ($9,064,000) in 1890 and 48,000,000 rubles ($24,720,000) in 1899. It is claimed that this advance in nine years could not be due to the natural increase of timber growth, and it is urged that the Government set an example in moderation.

W. R. HOLLOWAY,
Consul-General.

ST. PETERSBURG, *December 27, 1901.*

PASSPORTS FOR TRAVELING IN CHINA.

Minister Conger sends from Pekin, October 31, 1901, copies of correspondence with the Foreign Office upon the subject of foreigners traveling in the interior of China; also of the minister's notification to the American missionaries and the consulates in China, as follows:

PRINCE CH'ING TO MR. CONGER.

Prince Ch'ing, Imperial Commissioner, President of the Board of Foreign Affairs, etc., sends this dispatch:

I am in receipt of a dispatch from His Excellency Li, superintendent of trade for the north, saying that he had received a petition from the acting district magistrate of Wanp'ing Hsien, P'an-ying, as follows:

"It is the humble opinion of your petitioner that an examination of the treaties shows that foreigners traveling in China must first have their consuls communicate with the Chinese authorities that they may transmit instructions to the departments and districts through which the travelers are to pass, to give protection. The plan established was originally a good one, but, unfortunately, when instructions have been received sometimes the foreigner has already passed on, and sometimes there is a dispatch, but no foreigner. Formerly, when there was mutual peace, there was no occasion for anxiety, but now, after the recent disturbances, we can not but be more cautious. Investigation shows that, at present, a great many foreigners are constantly traveling about alone among the villages, and it is impossible for the department and district magistrates to know of it beforehand, so that they have no means of affording them protection. Month before last, in this district, at the Western Hills, a German, 'La-erh-fu-li-tz'u,' was killed, and it was just for

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such a reason. Although the criminals have already been arrested and punished, there is danger that other foreigners may go about alone, and the local officials not having any information of the fact, there are ten thousand chances to one that trouble will again arise, and the misfortune will be charged to a lack of efficiency in giving protection. Notwithstanding the fact that the fault may be a trifling one, already a foreigner has been killed, and it seems a duty, therefore, to request that hereafter, when a foreigner desires to travel about, he shall be required first to go to the local civil and military officials, or to the appropriate office, and report clearly to what place he intends to go, that they may appoint a guard to accompany him. If he is proceeding to another district, the first department or district official should prepare a dispatch and send it to the department or district official next to be visited, and have him appoint men to receive the traveler and send him on under protection. Should there be any carelessness, heavier blame should be attached to it; but a distinction ought to be made between inability to protect and carelessness in protecting. It is but right that I should petition your excellency to make a clear statement of the matter to the Board of Foreign Affairs, requesting them to send dispatches to the ministers of the powers residing in Pekin, calling their attention to the terms of the treaties, and to consult with them as to an agreement upon some plan of procedure, and thereupon to issue general instructions which may be carried out."

This petition having been received by His Excellency Li, he communicated the contents to me, and I, as in duty bound, now send this dispatch for your excellency's information, and that in accordance with its suggestions you may transmit instructions to citizens and officials of your country, that when traveling they should observe the provisions of the treaties, which will enable them to have protection.

Kuanghsu, XXVII Year, Ninth Moon, 12th Day (October 23, 1901).

PRINCE CH'ING TO MR. CONGER.

Prince Ch'ing, Imperial Commissioner, President of the Board of Foreign Affairs, etc., sends this dispatch:

I am in receipt of a dispatch from Li, the superintendent of trade for the north, informing me that he had received the following communication from the territorial taotai of Tientsin, Chang Lien-fen:

"Heretofore, when foreigners have gone into the interior to travel, their passports have been stamped by the customs taotai of Tientsin, but as the control of Tientsin has not yet been recovered, the customs taotai has not been able to enter upon his duties, and orders were given me to affix the seal in his stead. I have already been complying with this order and during the emergency have been giving passports, all of which is a matter of record. But in the matter of sending in the passports and stamping them, it recently happens that just when the person is on the point of starting he takes in hand to send in his passport, and it is very likely that when he reaches any department or district the dispatch has not yet arrived and it is really impossible to give protection, and should any untoward occurrence happen, the resulting complications may not be trifling. I feel bound, therefore, to request that, hereafter, all foreign travelers be required to inform me two weeks beforehand, that it may be possible to hurry with the preparation of the dispatches to be sent to the several localities, and thus secure proper care and avoid delay.

"Besides notifying the consuls of the various powers to this effect, I have the honor to request that your excellency will communicate with the Board of Foreign Affairs

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and ask them to request the ministers of the foreign governments at Pekin to direct their nationals to comply with this suggestion."

His Excellency Li, having received this dispatch, communicated the same to me, and as in duty bound I have the honor to send this dispatch to your excellency, that you may issue instructions to the traveling citizens and officials of your country to comply with the above suggestion.

Kuanghsu, XXVII Year, Ninth Moon, 12th Day (October 23, 1901).

MR. CONGER TO THE BOARD OF FOREIGN AFFAIRS.

LEGATION OF THE UNITED STATES OF AMERICA,
Pekin, China, October 29, 1901.

YOUR HIGHNESS AND YOUR EXCELLENCIES: I have the honor to acknowledge the receipt of two notes from your highness and your excellencies, dated October 23, both upon the subject of foreigners traveling in the interior of China, and requesting that all officials and citizens of the United States be instructed to observe the provisions of the treaties when traveling.

In compliance therewith, I shall at once notify the Americans that they must at all times strictly observe the treaty stipulations.

But I trust that such complete order will soon be restored throughout the Empire and such watchfulness on the part of the Chinese authorities be practiced that the trouble and expense of a guard for every single party will not long be necessary.

I must also state that the requirement suggested by the territorial taotai of Tientsin, that all foreigners traveling be required to give at least two weeks' advance notice in applying for travel permits, is unreasonable, unnecessary, and unwarranted by the letter or the spirit of the treaties.

Furthermore, I can not believe that either your highness or His Excellency Li Hung Chang intended to approve such suggestion.

I avail myself, etc.,

E. H. CONGER,
United States Minister.

CIRCULAR TO THE HEADS OF THE AMERICAN MISSIONS IN PEKIN.

LEGATION OF THE UNITED STATES OF AMERICA,
Pekin, China, October 30, 1901.

Your attention is called to the treaty regulations requiring all foreigners when traveling in China, outside of the immediate vicinity of the treaty ports, to be provided with passports, which must be produced whenever demanded by the authorities.

As the country is still in a somewhat disturbed condition, the Chinese Government strongly insists on the strict observance of the regulations mentioned, and further requests all persons intending to travel inland to give advance notice to the local officials along the proposed route, in order that every precaution may be taken to secure efficient protection. I therefore urge that you will instruct the members of your mission to carefully comply with the above injunction and request.

Very respectfully, yours,

E. H. CONGER.

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MR. CONGER TO MR. RAGSDALE, U. S. CONSUL, TIENTSIN.

LEGATION OF THE UNITED STATES OF AMERICA,
Pekin, China, October 30, 1901.

SIR: Your attention is called to the treaty regulations requiring all foreigners when traveling in China, outside of the immediate vicinity of the treaty ports, to be provided with passports, which must be produced whenever demanded by the authorities.

As the country is still in a somewhat disturbed condition, the Chinese Government strongly insists on the strict observance of the regulations mentioned, and further requests all persons intending to travel inland to give advance notice to the local officials along the proposed route, in order that every precaution may be taken to secure efficient protection. You will therefore notify the missionaries at Tientsin to carefully comply with the above injunction and request. The missionaries in Pekin have been notified from this legation.

Yours, respectfully,

E. H. CONGER.

CUSTOMS DUES IN CHINA.

Consul Ragsdale sends from Tientsin, November 5, 1901, copy of customs notification with reference to duties hereafter to be collected on all goods imported into China, as follows:

CUSTOMS NOTIFICATION NO. 126.

TIENTSIN CUSTOM-HOUSE,
November 1, 1901.

(1) On and after the 11th instant, the tariff of import duties hitherto existing and the list of duty-free goods cease to be operative, and, until further notice, whatever is imported, with certain exceptions, is to pay an effective 5 per cent ad valorem duty.

(2) The exceptions are:

(*a*) Foreign rice, cereals, and flour, as well as gold and silver, coined and uncoined, are exempt from duty.

(*b*) The import duty on opium remains unchanged at 30 taels* ($21.12); that and likin at the rate of 80 taels ($56.32), or 110 taels ($77.44) in all, being payable simultaneously, as at present.

(*c*) Foreign goods on the way to China or which shall have been dispatched to China within six days after the signature of the protocol—that is, on or before the 13th of September—are to pay import duty according to the old tariff, a fixed duty if enumerated and an ad valorem 5 per cent duty if unenumerated, and are to be exempt from duty if on the duty-free list. Goods dispatched after the 13th of September are to pay an effective 5 per cent, according to the new rule.

(*d*) Merchandise taken out of bond is to pay duty according to its liability on the day of bonding—that is, if already in bond or if bonded on any future day, but forming part of a cargo now on the way to China or dispatched to China on or before the 13th of September, it is to be treated according to the old tariff and tariff rules. All other bonded imports are to pay an effective 5 per cent.

(*e*) Whatever is imported for the use of legations at Pekin is exempt from import duty—applications for exemption permits, etc., to be countersigned and sealed by the consulate of the legation concerned.

* The value of the haikwan tael on October 1, 1901, was 70.4 cents.

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(*f*) Whatever is shipped or discharged for the use of foreign forces, military or naval, is exempt from duty—applications for exemption permits, etc., to be countersigned and sealed by the consulate of the flag concerned.

(3) The values on which the new tariff is to fix duties will be the average values for the three years 1897, 1898, 1899; but, pending its completion and publication, and in order to minimize trouble and expedite business, duty will be accepted on the values set forth in the statistical secretary's list of values for 1897, copies of which will soon be procurable, price $— per copy, at Shanghai, at Messrs. Kelly & Walsh's, and at outports at the custom-house. Where the valuation of this list is questioned, the market value of the day minus duty and charges, or, where that can not be ascertained, invoice value plus 10 per cent, will rule instead, but, as this will involve detention of goods concerned at owner's risk and expense till such market, or, failing market, invoice value can be ascertained and settled, it is hoped the valuation of the list will be acquiesced in.

(4) Goods exported pay duty according to the tariff hitherto existing.

(5) Coast-trade duty, which is not an import duty, but a coast duty on native produce inwards, remains as before, and is not now affected by the effective 5 per cent rule.

DETRING,
Commissioner of Customs.

By order of the Inspector-General.

FINANCES IN JAPAN.

Consul-General Bellows writes from Yokohama, November 25, 1901:

The Japan Gazette of November 23, 1901, republishes from the Kobé Chronicle the following address on Japanese financial conditions, delivered by Mr. Yamamoto, president of the Bank of Japan, before the Osaka Bankers' Club, November 18:

The financial crisis which prevailed from last year to April or May of this year is still very fresh in our memories. Happily, the difficulties have been overcome without very disastrous results, on which fact we are to be much congratulated. It is well known that the crisis originated in the boom which came after the war with China. The capital of various business companies (banks excepted) invested in machinery and other immovables stood at the enormous sum of from 60,000,000 yen ($29,880,000) to 90,000,000 yen ($44,820,000) in the years 1896–97. The Government drew up a financial scheme for the next ten years, which suddenly expanded the annual national expenditure by a large amount. The money required was to be drawn chiefly from the increase of taxation, the issue of bonds, and the indemnity received from China; while the fund for the extension of telephone and telegraph systems, the railway, and the establishment of the iron foundry was to be raised chiefly by issuing domestic bonds. For this purpose, it was proposed to raise the sum of 270,000,000 yen ($134,460,000). This proposal in itself seriously affected business. Such a radical expansion of the country's finances soon brought about a reaction, and the aim of the Government—which was practically to distribute the indemnity money received from China among the people, thus giving them wider scope in their business and at the same time enabling them to subscribe to the bonds—was defeated. The money spent by the Government on public works chiefly found its way into the pockets of the laboring classes, not to return easily to the Government. The prices of articles rose, the imports exceeded the exports, and business circles were placed in a most trying position. The people began to complain of the Government scheme, all hope of the proposed domestic loan being

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raised was abandoned, and the Government was finally compelled to modify its financial proposals. Taxation had to be increased again and again, and arrangements made to raise a foreign loan instead of the domestic loan before proposed.

Laws were amended to meet the change in the scheme, and bonds to the amount of 42,000,000 yen ($20,916,000) were placed on the foreign markets, and some 100,000,000 yen ($49,800,000) was also raised from abroad, by means of which the Government managed to carry out its scheme to the present year. Yet scarcity of money in business circles increased day after day, with the result that there was a contraction in business enterprise. The total amount of the paid-up capital of commercial companies, which stood at some 90,000,000 yen ($44,820,000) some years ago, fell to about 21,000,000 yen ($10,458,000) last year and to 19,000,000 yen ($9,462,000) this year. This, however, meant that the demand for money had returned to its normal level.

Order having now been restored in the finances of the country, in my opinion it has become necessary to cut down the public works within the limits of the country's financial ability. Last year, I urged the Government authorities to follow this policy. The last Cabinet fell on account of financial troubles, and the present Cabinet, finding a deficit of 50,000,000 yen ($24,900,000) in the revenue, entered into negotiations for a foreign loan. Happily or unhappily, the negotiations failed, and I do not think we need be disappointed that they did fail. Indeed, the failure of the negotiations will be productive of good in Japan. It has led the Government to make up its mind to postpone or suspend a part of the projected Government works and to readjust or economize expenditure. The only course now left for the Government to take for raising the necessary funds is to count on the Bank of Japan, no loan being otherwise possible at home or abroad. It is impossible for the Bank of Japan to make limitless advances even to the Government. When the negotiations for the foreign loan failed, the bank made inquiries of the Government as to the repayment of the advances now standing, and was assured that of the amount of the loans made by the bank, which will equal some 40,000,000 yen ($19,920,000) at the end of the present year, 20,000,000 yen ($9,960,000) would be repaid about February next, by disposing of the bonds now kept at London by the Government and of the silver seized in China. The whole amount it is proposed shall be repaid in July next, when the half-yearly balance is made. With this assurance the bank has agreed to make further advances, and the issue of the notes of the bank beyond the legal limit will probably amount to some 30,000,000 yen ($14,940,000).

There being good prospects of the money so advanced being easily recovered, the financial position will not be much affected.

The financial prospects are very promising. In particular, the rice crop has proved to be exceptionally successful, and the export trade has much improved, the raw-silk market being particularly active. There is, therefore, every hope of improvement of trade in the future.

SAKE BREWING IN JAPAN.

Many inquiries regarding the brewing of sake having been received at this office, I have prepared the following report, which I have endeavored to make as brief as possible without omitting anything of real value. The chemical analyses given were taken from a memoir (now out of print) prepared by R. W. Atkinson, professor of analytical and applied chemistry in the Tokyo University.

Sake, the national drink of Japan, as wine is of France and beer

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of Germany, is manufactured almost entirely from rice, and differs from beer chiefly in having a larger percentage of alcohol and smaller proportions of dextrose and dextrin. The manufacture of sake includes two processes—the production of koji, which the sake brewer uses much as a beer brewer does malt and often prepares in independent factories, and the combination of the koji with steamed rice and water under conditions calculated to induce fermentation.

For the manufacture of koji, it is essential that a constant and rather high degree of heat should be maintained for several days; and to secure this condition, chambers are cut in the ground 15 or 20 feet below the surface, and these are approached by a long, narrow passage, entered by a shaft, so that a cold draft may not reach the working chambers.

The rice is brought to the factory husked, but not cleaned, and is placed in a wooden mortar sunk in the ground. Over the mortar is a heavy wooden hammer attached to a lever. The hammer is raised and then permitted to fall by its own weight upon the rice, causing the grains to rub upon each other, thus removing the testa and usually the embryo of the seed also. In most cases, the lever is worked by man power, but in some instances steam or water power is used. The pounded mass is separated into three portions—the whole grains, the broken grains, and the bran, only the former of which is used for the best koji. The loss in this operation varies from 25 to 40 per cent.

The whole grains are placed in a tank covered with water and occasionally trodden, the water being frequently changed. After being thoroughly washed, the grain is permitted to soak over night, and is then steamed by being placed in a large tub with a false bottom covered with cloth. This tub is placed over an iron boiler filled with water, the steam from which passes through an opening in the true bottom of the tub and permeates the mass of rice, heating the grains, killing the embryos, if any remain after the pounding, and causing the starch to become gelatinized. After this treatment the grains should be flexible, of a horny appearance, and uniform throughout. The mass, now called "mi," is spread on mats and cooled to about 29° C., when a yellowish powder called "tane," and consisting of the spores of a fungus, is mixed with it in the proportion of about 3 cubic centimeters of tane to 72 liters* of rice. The spores are first thoroughly mixed with a small quantity of rice, and this mixture is scattered over the whole mass while spread out on the mats, and well stirred. The mixture is then carried to the cooler part of the underground chambers and left for twenty-four hours, when it has a temperature of 25° or 26° C. It is

*1 centimeter=0.39 inch; 1 liter=0.908 quart.

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now placed in the innermost part of the underground chambers and spread out in a very thin layer on wooden trays. After twelve hours, the contents of each tray is collected into a little heap on the tray and left for four or five hours, during which time the temperature rises considerably, and the vegetation of the spores binds the grains of the mass together with the mycelium. To prevent overheating, it is again spread out on the tray, and after cooling a few hours brought into heaps again, and afterwards worked with the hands for some time. While in the innermost chamber, the temperature of the koji varies from 15° to 27° C. and the air in the chamber from 8° to 13.8° C. The highest degree of temperature in the koji is observed just before the masses are broken apart, and the lowest just before making up into heaps again. The chamber is not artificially heated, except at starting, after being disused for some time. The heat generated by the growing fungus is sufficient to maintain the temperature of the room, besides heating the rice, although the consumption of oxygen and generation of carbonic-acid gas make it necessary to ventilate the room; and a current of warm air is constantly rising through a shaft at the front end of the passages, and being replaced by a current of pure, cold air, which flows along the floor of the chambers. In winter, when the difference between the outdoor temperature and that in the chamber is considerable, this method of ventilation is found effective and satisfactory; and during the warmer part of the year the koji is manufactured in small quantities only, and the ventilation is of less consequence.

The following table shows the chemical composition of two specimens of koji, A and B, which, before being analyzed, were dried at 100° C. In drying, the specimens lost, respectively, 25.82 and 28.1 per cent of their weight.

Description.	A.	B.
	Per cent.	*Per cent.*
Dextrose	25.02	58.1
Dextrin	3.88	4.41
Albumenoids:		
Soluble	8.34	6.4
Insoluble	1.5	1.83
Ash:		
Soluble	.52	.54
Insoluble	.09	.04
Starch	56	26.02
Cellulose	4.2	1.94
Fat	.43	.5
Total	99.98	99.96

Steamed rice, koji, and water are now mixed in the proportion of 90 liters of rice, 36 of koji, and 108 of water, the numbers for rice and koji referring to the amount of dry rice needed to produce the

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quantity used, as will also be the case in the formulæ given later in this report. After mixing, this mass is divided into six parts, so as to be more easily handled; each is placed in a shallow wooden tub and worked by hand for two hours, care being taken to break the lumps and render the mass of a smooth, even consistency. It is left for twenty-four hours, then stirred with paddles, and the different lots are emptied together into a larger tub, which has a wooden lid and is covered with matting to hinder the escape of heat. At this point in the preparation the treatment varies, some permitting it to stand for five or six days, while others proceed at once with the heating, which is the next step in the process.

A chemical analysis just before heating showed:

	Per cent.
Dextrose	12.25
Dextrin	5.69
Glycerin, ash, albumenoids, etc	.48
Fixed acid	.019
Volatile acid	.008
Water (by difference)	81.553
Total	100

Specific rotary power	degrees...	106
Specific gravity		1.18
Temperature	degrees...	10
Starch, undissolved	per cent...	15.46

A tub 18 inches deep and with a diameter varying from 12 inches at the top to 9 inches at the bottom is filled with boiling water, tightly closed, and suspended in the mash in the large tub, where it is frequently moved about, so as to agitate the mash and bring all parts in contact with the heater. This is usually left for half a day and then replaced by a fresh one, from five to ten tubs, and in some breweries even more, being used. During this process, the liquid attains a temperature of 23° C., or a little more, and the heat induces alcoholic fermentation. After seven days, the liquid is transferred to the shallow pans and permitted to cool until the fourteenth day, when this stage of the manufacture is completed, and the substance, now called "moto," has a temperature of about 9° C. Its chemical analysis shows:

	Per cent.
Alcohol	10.5
Dextrose	.2
Total acid	.56
Starch and cellulose	16.58
Water (by difference)	72.16
Total	100

The process of fermentation resembles that of wine in the fact that no ferment has been knowingly added by the brewer, and the

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question of the origin of the ferment, which develops very suddenly after heat is applied, has given rise to some discussion among scientists. The sake brewer judges of the progress of the moto by the activity of fermentation and the taste of the liquid, and uses it in the subsequent process much as yeast is used by the beer brewer.

Two hundred and thirty-four and one-half liters each of moto, steamed rice, and water are now mixed with 63 liters of koji in a large tun, and the mixture is stirred every two hours. After forty-two hours to three days, the workman adds 360¾ liters* of steamed rice, 117¼ liters of koji, and 541 liters of water; it is divided into two parts, and the stirring is continued every two hours. After twenty-four hours, steamed rice, koji, and water are again added in nearly the same proportion to the whole amount as before, the quantity of water depending upon the alcoholic strength desired. At first, the liquid is divided among four receptacles, but after three days it is gradually collected into one large vessel, in which the fermentation goes on more vigorously for two or three days and then lessens, the froth sinks, and after a few more days the product is ready for filtration.

The liquid now consists principally of alcohol and water, with a small quantity of the unaltered rice grains suspended in it. It is put into long, hempen bags, which have been strengthened by being soaked in the juice of unripe persimmons. Each bag is filled about two-thirds full, fastened securely, and three or four hundred are placed in a press—a wooden box, furnished with an aperture below and covered by a wooden plate, which fits inside the box and is pressed down by a lever. A slight pressure is applied and gradually increased to 1,200 or 1,800 pounds; and after twelve hours the cover is removed, the bags are turned over, and are again subjected to pressure for twelve hours. The composition of the filtered liquid is:

	Per cent.
Alcohol	11. 14
Glycerin, resin, and albumenoids	1. 992
Fixed acid	. 13
Volatile acid	. 02
Water (by difference)	86. 718
Total	100

The analysis of the residue is as follows:

	Per cent.
Soluble solid matter	1. 43
Starch and cellulose	32. 07
Ash	. 7
Alcohol	6
Water	59. 8
Total	100

*1 liter=0.908 quart.

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The alcohol in the residue is afterwards extracted by distillation. The filtered sake is still turbid, and is cleared by being permitted to stand until the suspended matter has settled, when the top is drawn off. The clear sake thus secured would not keep for more than a few days in warm weather, and before being stored it is heated to a temperature of from 49° to 54° C., and then, while still hot, transferred to the store vats, large tuns holding about 7 kiloliters. These are closed with lids and sealed by pasting a strip of paper over the joint. Even with these precautions, it is necessary to examine the sake frequently in warm weather, and when any signs of alteration are apparent it must be reheated. Because of the difficulty of preservation, the whole of the winter's brewing is consumed within the year, even in the large breweries.

E. C. BELLOWS,
Consul-General.

YOKOHAMA, *December 7, 1901.*

MANUFACTURE OF PAPER IN FORMOSA.

The Formosan Government is giving the local production of paper some attention, and a model hand paper factory is in course of construction near Kagi. The manufacturers of paper machinery in America may find the following of interest, and if there are machines which can handle the Formosan raw material and prove economical as compared with the hand process, there is an opening for such machinery in this island.

The manufacture of paper in Formosa has been an industry of considerable importance for some years. A small bamboo found in the Formosa hills is the chief material used; and, as a rule, the industry is carried on in the vicinity where this variety of bamboo is most abundant. The method of manufacture is as follows:

The young branchless bamboos are usually cut during the months of May or June, when the plant has attained a height of 4 or 5 feet. The stalks are first crushed with a wooden hammer, then placed in a cemented tank some 5 feet long, 3 feet wide, and 4 feet deep. Water to cover and a quantity of lime are added, and the material is left thus to decompose for about forty-five days. It is then removed, washed with fresh water, and placed in a second pit, similar in size to the above, where it is allowed to soak for a further forty-five days or more. The fibrous matter, now much softened, is placed in a stone mortar, which is used with a stone pestle worked by foot, similar to the Chinese rice-cleaning mortar. Here, the fibrous material is broken up and crushed until it has been reduced to a pulp. It is next placed on a platform and trodden by foot until the water

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has been partly driven out and the pulp becomes sticky. The pulp is then removed to a third cement vat, which has been previously partly filled with clean water, and is stirred until the mixture has attained the right consistency. The material is now considered ready for the final operation. For this, a screenlike implement is brought into use. This consists of a frame 2 feet 4 inches by 9 inches, supporting brass wires running crosswise and lacquered bamboo strips lengthwise, forming a fine network. A second frame of thin wood fits closely upon the screen, its outside rim being extended slightly to retain the quantity of pulp required for a single sheet. A third frame holds both the above together, and, by its projecting sides, furnishes a grip for the hands during its manipulation.

The complete implement is now dipped in the vat in such a way that the screen becomes covered with the pulp. The implement is lifted out horizontally and shaken a bit to distribute the pulp evenly. Most of the water passes out quickly through the netting, and, the outer frame being removed, the inner frame is placed in an inclined position to drain. When the water ceases to pass off, the screen is inverted, and the soft sheet is allowed to fall out upon a board arranged for that purpose. Thus the operation proceeds, the sheets being placed one on another until the pile is some 3 or 4 inches high. A second board is now superimposed and the lot placed under a long wooden lever near its attached end. By weights placed on the free end of the lever, the sheets are subjected to considerable pressure, which removes the superfluous water and gives compactness and firmness to them. On being released from the press, the sheets are taken out, four at a time, placed in a split bamboo, and hung out in the sun to dry. If the weather is unfavorable, the sheets are kept under cover until there is an opportunity to dry them. As might be expected, this extremely crude process is very wasteful of time, and not infrequently, owing perhaps to unfavorable weather, six months is required before the whole operation is complete. Sizing, glazing, hot pressing, and other methods of improving the grade of paper are unknown to the local Chinese, and the Formosa product is a thick, rough, coarse straw-colored paper, abounding in partly macerated bamboo fibers, which are often so slightly incorporated with the body of the paper that they can be shaken off. The sheets measure 12 by 29 inches, and are sold for 15 sen (7.2 cents) a hundred.

The chief center of this industry is Kagi, and in that city and vicinity many million pounds of the paper are produced annually, valued at some 200,000 yen ($100,000). There is practically no export. As common Chinese paper valued at over 350,000 yen ($175,000) was imported during the year 1899, in spite of a 15 per cent

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customs impost, it would appear that there is a considerable field open for the further development of the industry. With the water power obtainable in the higher reaches of the Tamsui River and the abundance of raw material, it would appear that a small modern paper mill might also be a profitable venture. The consumption among Chinese of all grades, excluding foreign glazed paper but including the native product, reaches an annual value of over 650,000 yen ($325,000) and appears to be increasing. Raw material is more abundant in the island than in either China or Japan, and it would be quite possible to build up an export trade.

The paper mulberry plant (*Broussonetia papyrifera*, Vent.) is also used in Formosa for the manufacture of paper. There is not a large local demand for this product, but it has been found very useful for paper umbrellas, lanterns, etc. Keibi (Kingboi), North Formosa, a few miles south of Taihoku, is interested in the industry, and the method of manufacture described below is that practiced there.

The bark is obtained from the hills to the east of Chureki (Tionglick) and Shinchiku (Teckcham), North Formosa, where the tree appears to be most abundant. Young trees 4 or 5 years old and those grown in shaded valleys appear to yield the best material. The bark of the whole trunk, from top to bottom, is stripped off, and its rough outer skin is removed by scraping. It is then dried in the sun, separated into strips an inch or so wide, and packed up into small bundles. The paper maker purchases the latter at from 4 to 8 yen ($2 to $4) a picul (133⅓ pounds), according to quality, cost of transportation, etc. Eight sheets of the paper described below can be obtained from 1 pound of the bark. To prepare the bark for paper making, it is first soaked in cold water for twelve or thirteen hours to clean and soften it. It is then placed in a large iron pan, covered with water, to which is added some 14 pounds of Formosa lime to every 100 pounds of bark, and boiled for twelve hours. This operation removes all gummy matters. (If lime is not used, the bark must be soaked for about a week.) The material is then vigorously washed for two hours to remove the lime, this being usually performed in the shallows of the river, a close picket bamboo fence being erected to prevent the fiber strips floating away. It is next removed to a flat stone, where it receives a strong beating for a half hour or so with two wooden mallets, the workman holding one in each hand. The long fibers readily separate under this treatment. The fibers, now thoroughly softened, are immersed in water, and then, with two knives, are chopped up into very small pieces, some half hour being required for this operation. The small pieces are then deposited in a vat on the river bank, water is added, and the mixture is stirred for fifteen or twenty minutes, which converts it into a thin pulp, requiring no further manipulation.

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While the mulberry pulp forms the fibrous material for the paper, a mucilaginous substance must be added, which is obtained from the leaves and small branches of young wikstroemia trees. In preparing the latter, the leaves and twigs are first well bruised with wooden mallets and, after water has been added, are vigorously kneaded by hand. The substance is then transferred to a basket lined with coarse jute cloth, which is fastened over the vat, the gummy liquor straining through the cloth onto the pulp.

In forming the sheet of paper, an appliance consisting of a bamboo frame some 4 feet long by 3½ feet wide, with inner cross-pieces, over which is stretched a coarse sheet of jute cloth, is used. A large number of these sievelike utensils is required, and they are taken, one at a time, to the workman at the vat. Here, the sieve is placed with one side of the frame resting on a post and the near side held by the vatman's left hand. With his right hand, the pulp is ladled out of the vat and poured onto the sieve; the latter is then given a rocking motion until the pulp is spread over it evenly, the surplus water finding its way through the coarse cloth. When the pulp is partly thickened, the frame is removed and set up in an inclined position. If the weather is suitable, the pulp dries quickly, and on a sunny, summer day some four batches can be made, but in winter only three. When dried, the paper is stripped off the frame easily. It is of a pale mouse color, the sheets being some 3 by 3½ feet in size, and is light in weight, resembling in this respect a medium-grade tissue. It is fairly smooth and soft, but, owing to the coarse method of production, contains much half-macerated matter, small pieces of bark, etc. It sells in the local market at from 1 to 1.80 yen (50 to 90 cents) per 100 sheets. It is used in the manufacture of paper umbrellas, Chinese lanterns, and rain coats.

In the manufacture of these articles, the paper is first painted with persimmon liquor, which hardens it and renders it almost impervious to water. Two or more layers glued together are generally used, and the finished product is varnished, giving a strong, waterproof article. For these purposes, the Chinese manufacturer asserts that the local paper is superior to other available papers, either domestic or foreign, not even excluding the uncommonly strong Japanese paper which, owing to its comparatively low cost, is sometimes used.

There are other materials in Formosa suitable for paper manufacture which as yet have not been utilized. The fibrous stalk of the banana plant can be obtained in abundance, and there is also considerable jute refuse which would be available. The small shrub *Wikstroemia indica* grows wild in the hills and plains and is very plentiful on the coral reefs of extreme South Formosa. A beautiful soft paper resembling French tissue has been manufactured in

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Tokyo from this material sent there from Formosa, and it is hoped that further experiments will be conducted to ascertain definitely the practical value of this plant for paper making.

The Formosan Government is inclined to encourage the paper industry, and the model paper factory now in course of construction will be devoted to experimental work in order to ascertain the most desirable methods of hand manufacture. Power appliances might be introduced if they were found to be economical and the first cost were not prohibitive. The object of the Government is rather to improve the native methods of manufacture already in existence than to establish a large factory, which would take the industry out of the hands of the many now engaged in it. There is doubtless, however, apparatus (preferably requiring but small power), such as pulp machinery, etc., which could be introduced to advantage.

In Kagi, a small Japanese concern has been organized which will invest 15,000 yen ($7,500) in a handmill. It will start with ten pulp tanks, and it is said that each tank will yield material for 2,600 sheets of "mino" paper daily, which will give the mill a yearly capacity of 800,000 sheets. There is water power available, and it is reported that this company will utilize some simple pulp machines obtained from Japan. There is an abundance of raw material. Paper mulberry is utilized in Japan in the manufacture of "mino" paper, which is a strong, clean-colored, unglazed paper of fine texture used by Japanese officials throughout that Empire for correspondence and documents.

I would advise manufacturers of paper machinery suitable for small mills to forward to this consulate catalogues and full information on the subject; and this office will place the same before the persons interested.

JAMES W. DAVIDSON,
Consul.

TAMSUI, *December 10, 1901.*

JAPANESE COMMERCIAL MUSEUM IN SINGAPORE.

About three years ago, a Japanese commercial museum was established in this city, with its general management in the hands of the Japanese consul.

I have this week visited the museum, and find that the exhibits include the following lines:

Clocks.
Shovels.
Jinrikishas.
Women's wear (under and outer).
Men's wear.
Handkerchiefs.

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Table spreads.
Blankets.
Rugs.
Dress goods.
Hats.
Fans.
Brushes.
Toilet articles.
Toilet boxes.
Lacquer boxes, plaques, etc.
Stationery.
Glassware.
Tableware.
Table dishes in earthen, stone, and china ware.
Vases—many styles, sizes, and materials
Bric-a-brac.
Smoker's sets.
Glass, plain and decorated.
Mattings for floor and beds.
Trunks.
Hand bags.
Hand satchels.
Shopping bags, leather and cloth.
Stand-lamp mats.
Shoes.
Slippers.
Umbrellas.
Matches.
Display lanterns, etc.

The shovels are very inferior.

Many thousands of jinrikishas have been imported here during the past ten years—about 60,000 in 1900—at an average cost of $20 gold each.

The shoes and slippers are coarse and of bad shape, not comparing with the most common United States factory stock.

The exhibits occupy a space of about 20 by 60 feet—up one flight of stairs, near the post-office. The museum has three rooms, one for unpacking and storage and two for exhibition. I believe the rent to be about $40 gold per month.

As this is one of the great ports of the world, especially for the exchange of products between the old and new civilizations, with 55,000 vessels entering and clearing annually, and with imports and exports equaling almost $600,000,000 silver ($285,000,000 gold), it would seem advisable for our producers and exporters to imitate the Japanese and establish an American commercial museum here. If superintended by able commercial men, many and large orders for varied lines could no doubt be obtained in this way, with less expense than by employing traveling salesmen.

The total imports into Singapore from Japan in 1900 were $7,236,445 silver, or $3,437,311 gold, divided in part as follows:

Article.	Value.	
	*Silver.**	*Gold.*
Clocks and watches	$83,705	$39,760
Matches	720,836	342,397
Glassware	34,673	16,470
Japan ware	608,976	289,264

* Value of Mexican dollar in 1900, 47.5 cents.

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Umbrellas were imported in the first six months of 1901 to the value of $64,887 silver ($31,794 gold).*

Singapore also imported from Japan, during 1900, 442,972 tons of coal, valued here at $4,816,785 silver ($2,287,973 gold), or at about $11 silver ($5.23) per ton.

The total importation of coal was 661,838.5 tons, valued at $7,922,320 silver ($3,763,102), showing the importations from Japan to be about 70 per cent of the total.

O. F. WILLIAMS,
Consul-General.

SINGAPORE, *November 15, 1901.*

FOREIGN TRADE OF SIAM.

The total value of Siam's trade with foreign countries during the year 1900 was $57,229,843 Mexican, or $28,619,922 gold, reckoning the Mexican dollar at 50 cents gold, around which point exchange hovered during the last six months of that year.

The total value of the foreign trade during the year 1899 was $58,071,379 Mexican, or $29,035,699 gold, at the same rate of exchange.

This statement on the face of it shows a falling off of some $415,777 gold in the total foreign trade of the country in 1900, as compared with that of 1899.

The treasure imported and exported during 1899 exceeded that of 1900 by $2,198,502 Mexican ($1,099,251 gold); however, excluding this item, the foreign trade in articles of general use and consumption in the year 1900 exceeded that of the preceding year by $678,484 gold. This shows a very healthy growth in the traffic of the country, when it is considered that the crop of rice, which cereal furnishes by far the chief export, was decidedly short for that year; and that the output of teak timber, which stands next in importance on the list of exports, fell far below the normal amount on account of slack water in the streams.

Notwithstanding these evidences of a bad year, the exports of the country (exclusive of treasure) exceeded the imports by $2,083,307 gold.

Exclusive of treasure, the imports of the country from foreign markets, in 1900, amounted to $23,655,165 Mexican, or $11,827,593 gold; and it is in this item that the outside world is especially interested.

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* Value of Mexican dollar in 1901, 49 cents.

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This trade, with the shipments of treasure, altogether amounting to $26,036,615 Mexican, or $13,018,307 gold, furnishes interesting data when considered in the light of its distribution among the different markets of the world. And as the treasure imports are credited almost entirely to the Orient, the comparison of the imports from occidental nations in the following list has to do only with the trade in articles of use and consumption.

England, which stands first upon the list of European countries, has fallen off in imports into Siam a trifle more than 1 per cent during the year, if the trade with the mother country alone is considered. If, however, the trade with the two great ports of Singapore (nearly $10,000,000 Mexican, or $5,000,000 gold) and Hongkong (nearly $7,000,000 Mexican, or $3,500,000 gold) be added, the loss is a trifle more; but eliminating from this the item of treasure, the loss stands materially the same—1 per cent—for the year. It must at all times be borne in mind that the imports from Singapore and Hongkong are by no means confined to British trade, as will be shown later; but if the imports from India (about $1,000,000 Mexican, or $500,000 gold), which are nearly all British, are added, the loss holds, for English trade, about the same as at first stated.

Germany, which stands second in the list, has increased her trade 30 per cent. This includes $289,704 Mexican ($144,852 gold) in copper coins.

Switzerland, the third in the list, has fallen off 18 per cent.

France has lost about 4½ per cent. If, however, to this trade are added the imports from Saigon ($779,548 Mexican, or $389,774 gold), which are entirely French, we find that the French imports into Siam during the twelve months under review have increased over 12½ per cent.

Russia, fifth in the list, has increased her trade 35 per cent.

Denmark, the sixth, has increased hers 22 per cent; and Italy, Holland, and Belgium have lost.

Austria has a small trade, but it has materially increased during the year.

The United States shows an increase of more than 72 per cent. Yet, although this trade has advanced at more than double the rate of that of any of our great competitors, the volume of our trade with Siam, as compared with the English and German, is not satisfactory; for, while England's figures are $2,770,555 Mexican, or $1,385,277 gold (plus the whole of India's $1,000,000 Mexican, or $500,000 gold, and a good part of Hongkong and Singapore's $17,000,000 Mexican, or $8,500,000 gold, which are jointly credited to Great Britain), and while Germany's figures are $1,434,066 Mexican, or

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$717,033 gold (plus some that comes through Hongkong and Singapore), those of America are but $328,623 Mexican ($164,311 gold). There is yet a word to be said on this, however.

Hongkong and Singapore stand as the commercial gateways to Siam, the one for the east and the other for the west. From Hongkong comes the vast volume of nearly $10,000,000 ($5,000,000 gold) worth of trade, and from Singapore nearly $7,000,000 ($3,500,000). When from the Hongkong trade is deducted over $2,250,000 ($1,125,000) for the shipment of treasure, we have in the neighborhood of $7,000,000 ($3,500,000) worth of goods shipped into Siam from each of these places, neither of which is a producing port. To analyze this trade, which comprises over half the total imports that enter Siam and for which these are but ports of transshipment and distribution, is difficult; but there are some facts which aid in determining the sources of much of this volume, and in determining the relation that American trade bears to it.

First, the facilities for through shipments from Germany to Siam are excellent, and it is natural to suppose that the great bulk of the goods coming from that market is imported direct and is credited in the customs reports of Siam to this source.

Denmark has a line of steamships plying directly between Copenhagen and Siam, and in this line Russia is heavily interested; this reduces the necessity of either of these countries relying upon British distributing ports for forwarding their goods. The French have a steamship line plying regularly between Bangkok and Saigon, which is the great French entrepôt of this part of the world.

On the other hand, there is very little facility for the through shipment of goods between the United States and Bangkok, and what there is at this port is for the most part in the hands of firms interested in other lines of transportation. There has not been a vessel of any description flying the United States flag in this port since 1896, when an American gunboat visited Bangkok. While, therefore, the customs reports of Bangkok may state the volume of trade carried on by some of these countries with approximate exactness, it can reasonably be deduced from the foregoing that the figures representing American trade with this country must fall far below the facts; and that in the vast volume of commerce credited to Hongkong and Singapore, American imports enter to no inconsiderable degree. All the flour consumed by the 11,000,000 people in Siam is produced in America, and yet it is quite safe to say that during the year 1900 there was not one sack of flour credited to the American market. Information secured by correspondence with the several ports of the Far East, together with corroborative evidence here, warrants the

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statement that in three lines of American goods alone there has been imported from these two distributing points more than the entire value credited to the United States in the customs reports of the year.

In this line of investigation, another fact has been discovered which is to be taken into consideration in computing the volume of American trade. The managers of one of the largest establishments in the city, buying more American hardware and machinery than any other, stated to me that they have not imported a dollar's worth of goods from America during the year. Every article had been purchased for them by their agents in Great Britain and credited to the British trade. Last year, when, for the first time, American firms were granted an open tender by the Government to bid on supplies for a new railroad to be constructed, they were confronted by American bids, so called, presented by German firms, who would furnish American goods; and these, if furnished, would no doubt have been credited to the German markets.

These illustrations are sufficient to show that the customs reports of Siam give our competitors credit for trade that belongs to the United States.

All things considered, it is well within the truth to say that the volume of American trade with Siam is more nearly represented by $1,000,000 Mexican ($500,000) than by the figures—$328,623 Mexican ($164,311)—published in the reports of 1900. This would place America, gaining at the rate of 72 per cent, on an equal footing with France—$988,925 Mexican ($494,462)—which is gaining at the rate of 12½ per cent. Germany has $1,434,066 ($717,033), and is gaining at the rate of 30 per cent; and the British, although losing at a slight rate, after every deduction has been made that can be made, are still in control of more of the imports of Siam than all of their competitors put together—anywhere from $10,000,000 to $16,000,000 ($5,000,000 to $8,000,000) out of the total of $24,000,000 ($12,000,000). One feels warranted in leaving this large margin between figures, in view of the impossibility of analyzing the volume of trade from Singapore and Hongkong, in which must be reckoned not only the elements that have been mentioned, but much of the vast trade from China, the not inconsiderable traffic of Japan, Australia, the Philippines, and the Dutch provinces, and of all of the States of Europe not previously considered.

HAMILTON KING,
Consul-General.

BANGKOK, *November 12, 1901.*

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UNITED STATES TRADE WITH SIAM.

The articles imported from the United States into Siam during the years 1899 and 1900, and their value,* are given below:

Article.	1899.					
	Direct.		Via Hongkong.		Via Singapore.	
	Mexican.	*Gold.*	*Mexican.*	*Gold.*	*Mexican.*	*Gold.*
Machinery and parts	$31,810	$15,905	$1,360	$680	$325,119	$162,554
Cycles and accessories	49,387	24,693	.....	.....	74,406	37,203
Hardware and cutlery	9,553	4,776	30,682	15,341	77,632	38,816
Wrought iron and manufactures thereof	1,848	924	4,165	2,082	99,034	49,517
Paper:						
Writing and printing	4,577	2,288	.....	.....	.....	.....
Other sorts	2,746	1,373	.....	.....	.....	.....
Stationery	1,282	641	.....	.....	.....	.....
Books and printed matter	1,745	872	.....	.....	.....	.....
Unclassified	29,549	14,774	309,504	154,752	283,714	141,857
Lamps and parts	.....	.....	33,142	16,571	47,724	23,862
Wire rope and cable	.....	.....	2,588	1,294	13,627	6,813
Oils, lubricants, etc	.....	.....	21,692	10,846	344,143	172,071
Paints and dyestuffs	.....	.....	23,283	11,641	79,241	39,620
Provisions	.....	.....	944,808	472,404	446,378	223,189
Tobacco (manufactured)	.....	.....	135,568	67,784	58,656	29,328
Total	132,499	61,249	.....	.....	.....	.....

Article.	1900.					
	Direct.		Via Hongkong.		Via Singapore.	
	Mexican.	*Gold.*	*Mexican.*	*Gold.*	*Mexican.*	*Gold.*
Machinery and parts	$69,160	$34,580	.....	.....	$66,664	$33,332
Cycles and accessories	64,300	32,150	.....	.....	5,430	2,715
Hardware and cutlery	7,607	3,803	31,917	15,958	81,932	40,966
Paper, writing and printing	634	317	.....	.....	.....	.....
Stationery	8,386	4,193	.....	.....	.....	.....
Books and printed matter	1,342	671	.....	.....	.....	.....
Unclassified	44,633	22,316	286,518	143,259	490,314	245,157
Ammunition and explosives	629	314	.....	.....	.....	.....
Chemical products and drugs	11,147	5,573	.....	.....	.....	.....
Clothing, foreign	1,976	938	.....	.....	.....	.....
Glass and crystal ware	1,946	973	.....	.....	.....	.....
Lamps and parts	48,615	24,307	.....	.....	.....	.....
Wire rope and cable	11,177	5,588	.....	.....	.....	.....
Metals and manufactures thereof	1,076	538	.....	.....	.....	.....
Oils, lubricants, etc	1,865	932	.....	.....	.....	.....
Paints and dyestuffs	542	271	.....	.....	.....	.....
Provisions	37,216	18,608	.....	.....	.....	.....
Tobacco (manufactured)	5,542	2,771	.....	.....	.....	.....
Beer	987	493	.....	.....	.....	.....
Wines	1,642	821	.....	.....	.....	.....
Total	320,422	160,211	.....	.....	.....	.....

*The consul-general takes the average value of the Mexican dollar as 50 cents. Its value was estimated by the Director of the Mint in 1900 as 47.5 cents and in 1899 as 47.6 cents.

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The United States is first in the import of bicycles. England comes next, standing, however, in the relation of 1 to 4.

In the import of wire, America stands next to Germany, which is first. If to the figures credited to America were added those credited to Hongkong (and nearly all of the wire probably comes from America), it would stand first in this line also. It is hardly fair to suppose that any large amount of goods of this kind would be shipped from Europe past Singapore a distance of 1,440 miles to Hongkong, and then be returned to Bangkok, an equal distance.

America's trade in lamps is surprising. To the $48,615 given may safely be added the greater part of the imports from Hongkong, $33,142, for the reason stated above; and it is fair to assume that the Singapore figures also should yield something to American credit in this line. This trade is almost entirely in the side and bottom winding metal lamp that burns kerosene without a chimney.

The showing in chemicals and drugs is exceedingly good, considering that it is the first year the trade has been recognized in the customs reports.

The returns for tobacco are by no means commensurate with the business done in this American product. A considerable traffic has been transacted by American houses located in China and Japan, and a good trade is also done from Singapore. Manila cigars figure largely in the market. They are the Havanas of the East.

There are heavy imports of American tinned (canned) goods through Chinese houses in Hongkong; but only a small per cent of the tinned goods that come to Siam from America is credited to our country.

No flour is credited to America, although all the flour that is used in Siam comes from that source. In the very large showing under the item of "provisions" from Hongkong and Singapore—especially Hongkong—American flour and tinned goods figure largely.

There is a large trade in American clocks. I have penetrated the jungles of Siam for over 600 miles to the north, and have traveled east and west and south from Bangkok as well, and in no hamlet, however remote, have I failed to find the American clock. It is impossible, however, to get any figures as to this trade.

The American sewing machine has almost as universal a claim on the Siamese as has the American clock. The sale in this market runs from 300 to 600 every year.

There is a large and growing business in electrical goods to supply the Tramway Company, the electric light and power plant, and the twenty-six private plants in the city. In this line, America has the great export of the market.

The amount of petroleum imported into Siam during the year

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1900 was 4,355,517 gallons; of this Russia sent 949,412 gallons, the rest coming from Sumatra, Borneo, and other parts of the Far East; none from the American market. The figures are interesting, as the import of Russian petroleum shows to a dollar the amount of Russian trade with the country. The Shell Line of iron-tank steamers takes oil at Baku, the Russian port, and discharges at Bangkok. They then cleanse their tanks with water, steam, and lime, take rice and discharge at Bremen or some other German port, returning light to Baku. This company, however, now has its own plant in Borneo well under way, and is bringing most of the petroleum from there. Indeed, I am informed on good authority that the entire import in this line next year will be from Borneo. This would indicate that the Russian trade with Siam is not yet to be considered a permanent factor in the question of competition. All of this petroleum is brought here in bulk and stored in large tanks below the city. The oil is inferior in quality, cheap, and very smoky, but it suits the natives and a good trade is resulting. The American product, which had always been imported in tin cases and was of a better quality, supplied the European demand in the city, but could not compete with the poorer oil in price. When electricity was introduced, the demand for good illuminating oil was so far lessened that those previously interested in American oil gave up the trade, importing their last cargo in 1898.

Crude petroleum for fuel is now becoming a feature of the trade, because of the high price of wood and coal here, and this industry promises to be a growing one. The Bangkok market of the future will be for inferior grades of oil and for crude petroleum, and, in order to compete, these must be imported in bulk.

HAMILTON KING,
Consul General.

BANGKOK, *November 16, 1901.*

NEED OF AN AMERICAN BUSINESS HOUSE IN SIAM.

There is not in the whole of Siam at present one American house competent to consider a business proposition or a Government contract, to push American trade, or to represent American interests. Other nationalities are well represented; they are constantly seeking business, and, in the event of opportunities, are ready to consider them at once. It can not be expected that business will seek Americans here any more than in other countries; nor if it is sought out by the consular representative, that the necessary three months'

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delay for a reply from America will fail to jeopardize our interests in the matter.

An American business house should be established in Bangkok. After three years and a half residence here, I am persuaded that, for the right kind of people, there is an excellent business outlook in this country.

A house to succeed in Siam must be of a standing that is recognized by the business world—one having connections in America, and whose name is a guaranty for its undertakings. It must be strong enough to consider any business proposition that may come before it and be adapted to attend to the lighter lines of trade as well. Such a house could secure the confidence of the Government of Siam at once and would be welcomed by it. To build up American trade in Siam, the house must be an American house, run on American lines, and managed by American business men who are on the ground. We can not expect to succeed in business by farming out our interests to men of nationalities that have conflicting interests to be advanced. That a man has succeeded in business in America is no guaranty that he will succeed here, so different are the methods of carrying on trade in the Far East. One good man with business experience in the Orient is a necessity from the first. It would be well, indeed, if the house were connected with an American business already established in the Far East. It need not cut into the trade of those engaged in importing from America, but might assist them and encourage others by facilitating shipping, easing terms of purchase, and offering the usual wholesale inducements at this end of the line. Such a house should be able to control to its own benefit, to the advantage of the producers, and to the advantage of the local purchasers as well, all the electrical supplies of this market.

The electrical development of Bangkok during the last ten years has been wonderful. The Siam Electricity Company, Limited, has a capital of £150,000 ($729,975), plus 200,000 ticals ($100,000); it has 17,000 lamps installed at 16 candlepower; a tramway track of 7½ miles in operation, and a track of 3½ miles under construction, which will be in operation before the end of this year; it has twenty-six cars in use and fourteen under construction; it is advertising and supplying electric power for various industries throughout the city, and is now considering a line of automobiles to be run in connection with its tram line. Besides this company, there is being pushed a request for another concession on the other side of the river, and there are twenty-six private plants in the various mills, forts, dock companies, and the navy-yard of the city. The United States has almost the entire market in this line now, and, with interested and intelligent management, this trade should be greatly increased.

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Such a house should be able to handle the entire import of American flour. This now amounts to anywhere between 125,000 and 175,000 sacks per year, and the demand is constantly increasing. And there is no reason why the large interests in tinned goods should not, if wisely handled, result to the greater benefit of both producers at home and traders in this market.

By handling clocks, bicycles, sewing machines, lamps, and other lines of sure-selling articles, through consignments or through guaranteed orders, such a house could benefit the trade and the large and small purchaser here as well.

The import of cotton and piece goods alone in this port amounts to $3,500,000 Mexican (about $1,600,000 gold) a year, of which scarcely a dollar's worth comes from America. Yet the only barriers to these goods between Bangkok and America are the present rate of freight and our demands for cash payments, the removal of either of which would open the market. Why should not such a house, by facilitating shipping and by large imports, open up a splendid trade for the American producer in this line of goods? And this is a trade that must constantly increase as the years go by, for to produce these goods in a country where the raw material, the machinery, the labor, and the fuel must be imported is out of the question.

Here is a great city of 1,000,000 souls whose only water supply is that of the rain from the heavens during the seven months of the wet season and of the foul and brackish waters of the rivers and the canals during the five months of the dry season; a city which, because of this, loses its citizens by thousands every year from the scourge of Asiatic cholera. The one escape from this scourge is a public water supply, which the increasing intelligence and progress of Siam must provide.

Here is a great, flat city whose level in no spot throughout its area of 30 or 40 square miles rises 36 inches above high-water mark. During the high tides of October and November, all its natural levels are submerged. It has absolutely no system of sewerage, the construction of which would involve questions of scientific engineering of no mean quality. Yet these problems must be met and solved within the next decade.

Siam is, with few exceptions, a great alluvial plain extending hundreds of miles to the north. This plain is capable of being made the richest rice garden of the world. As yet, the soil has been scratched in but the crudest way and in but few and limited areas; yet its abundant harvests feed the millions of Siam's people and supply an export of between $2,000,000 and $3,000,000 worth every year. The very little that has been done to turn the jungle into productive fields has returned rich rewards in improved harvests, improved revenues, and improved homes; yet this great uncultivated plain lies

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ready to respond to the simplest processes of irrigation, with returns that will make Siam one of the richest of agricultural countries. Those competent to speak say there is nothing in the world like its promise as a rice-producing country; its area is vast, its soil is rich, and the quality of its rice stands first in the European markets. The problem of irrigation is one of the simplest and will soon receive attention.

The highways of this country are its canals, which intersect this vast plain in every direction. These, through years of neglect, have become choked. With the dredging of these old canals and the opening up of new ones, Siam's increasing harvests and improved industries must find cheap transport to the sea; and here is another problem that awaits solution.

The great mud flat at the mouth of the river, known as the bar, stretches away for miles, effectually blocking this splendid harbor against all shipping for a good part of the time, and against a good part of the shipping at all times—a hindrance to commerce, an expense to the trade, and an unmitigated nuisance that finds no excuse for its existence but the considerable outlay that would be required to remove it. This will not be endured much longer by an intelligent people.

Siam's railroads are but in their infancy, yet the little State has already spent the handsome sum of $16,200,000 Mexican (about $7,800,000), and her railroad programme extends well into the future.

She has a snug little navy, of which she is justly proud, and this, with her army of 10,000 soldiers furnished with the most modern equipment, calls for constant supplies.

These are some of the plans and problems that confront this people for solution now; of the development of the mines and forests and the abundant agricultural resources let the future speak. For a house competent to enter into this field, there is probably no better business outlook in the world.

HAMILTON KING,
Consul-General.

BANGKOK, *November 27, 1901.*

TRANSPORTATION FACILITIES FOR SIAM.

In 1898, 88 per cent of the trade of this port was carried on in British bottoms. To-day, there are three boats under the British flag regularly plying between Bangkok and Singapore, and these are owned by British Chinese firms; another boat, running between Bangkok and Bombay, belongs to a British firm; and the heavy demand for shipping, caused by the unusually large rice crop, has brought two or three transients under the British flag from Hongkong and Swatow.

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In 1898, the Norddeutscher Lloyd Company purchased the Holt Line of British boats running between Bangkok and Singapore, and also the Scottish Oriental Line running between Bangkok and Hongkong. The managers have added to these fleets five new ships and transferred from other lines two others, have added two large new steam lighters, have purchased a coast-line steamer to serve as a steam lighter, and have on the stocks in Europe two large steamers to be used next year. Besides, they have been obliged to use transient boats to meet the demand of the past eight months. This company now has a steamer leaving Hongkong for Bangkok and Bangkok for Hongkong about every three days, and the same service between this port and Singapore. A great improvement for passenger traffic has been made by the introduction of the steamship *Deli* on the Singapore run. She is a fine boat, fitted up after the manner of our passenger boats on the Sound and the Great Lakes, with accommodations for first and second class passengers, and leaves Singapore every second Thursday in connection with the outward German mail, returning in time for the homeward mail on Monday.

It is estimated that about 80 per cent of the regular trade of this port is now under the German flag.

The following data, which will be found approximately correct, as to the nationality and tonnage of the foreign steamers entering the port of Bangkok during 1899, 1900, and the first six months of the current year will demonstrate the change that has come over Bangkok shipping since the purchase by the Norddeutscher Lloyd Line of Holt's and the Scottish Oriental steamers. In reading these figures, it must be borne in mind that most of the transients are found outside the German lines.

Nationality.	1899.		1900.		1901.*	
	Ships.	Tons.	Ships.	Tons.	Ships.	Tons.
British	298	267,967	168	141,370	79	69,408
German	74	67,681	194	185,577	133	145,836
French	26	9,776	26	9,753	13	4,888
Danish	9	12,349	4	5,065	3	5,723
Norwegian	12	10,522	18	13,810	24	23,341
Dutch	14	5,162	16	6,154	7	2,534
Russian	1	2,096	3	6,001	1	2,626

* January 1 to June 30.

Activity in the export of rice, due to the excellent crop of last season, has stimulated the shipping of the port and has brought an unusual number of transients into the trade. Unless something unusual occurs, this year's crop will be quite as large.

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This activity is also expressed in the demand for lighters. The Bangkok River is closed by a bar and only vessels drawing 11 feet of water can be sure of crossing at all tides, while those drawing 13 feet can cross only at top of spring tides. Most vessels, therefore, go outside the bar to complete their loading at the Island of Koh-Si-Chang or at Anghin, on the mainland, a distance of some 20 miles from the river mouth or 45 from the city. The cargoes are brought down by lighters. The demand this year has been so large that although everything available in the way of sailing or steam craft has been requisitioned, the number has proven quite inadequate to handle the traffic and the dispatch of cargoes has been seriously hindered.

It is impossible to send goods from America to Bangkok without at least one transshipment. Every facility for the through shipment of goods is furnished the British, German, French, Danish, and Russian markets, and there are local houses here to look after the interests of all these countries.

It can not be expected that American ships will ply between Bangkok and New York in the immediate future; but much might be done toward improving facilities for shipping goods both ways, by through bills of lading, if there were established here an American firm representing American trade whose business demanded these facilities. Such arrangements can now be made here, but the men intrusted with this matter are largely engaged in conflicting interests.

Duties are fixed by treaty at 3 per cent on all imports except liquors, on which the rate ranges from 5 to 10 per cent. The cost of freight from New York to Bangkok is from $9 to $12 gold per ton.

All goods coming to this port must be transshipped at Singapore or Hongkong, as there is no through line of steamers from America or Europe to Bangkok, except the East Asiatic Company, which operates a line of fine boats between Copenhagen and the Far East. These are booked to touch at Bangkok on their way home every three months.

As I write (November 30) there lies before me a good-sized invoice of American goods for Bangkok that were shipped from San Francisco by way of Hongkong. This invoice bears the date of May 15, 1901, and the importer is here to-day to inquire if we can help him to trace his goods. This is by no means an isolated case. Certain American goods lay in the warehouses at Singapore over five months this year. This ought to be remedied in the interests of the trade.

With the direct lines of boats now running between New York and Singapore en route to Manila, and between the Pacific coast and

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Hongkong, a little intelligent effort on the part of those interested ought to lead to such arrangements as would insure against delays at these ports of transshipment. It is also believed that better freight rates could be arranged.

HAMILTON KING,
Consul-General.

BANGKOK, *November 30, 1901.*

AUSTRALIAN TARIFF REGULATIONS AND CHANGES.

Consul-General Bray writes from Melbourne, November 18, 1901:

I have been informed by the Hon. C. C. Kingston, minister of Australian customs, that should the tariff now before Parliament (copy of which was transmitted October 12, 1901*) fail to pass in its present form, any increase or decrease in duties as now levied will not be charged or refunded to the importer, as was at first intended. Amendments made in the tariff during its passage through Parliament will take effect immediately; *i. e.*, when a change in the original bill is voted or passed by the House of Representatives, the Government at once notifies the collector of customs to charge duty from that date, according to such amendment. The Parliament is now debating the bill, and it is anticipated that two months will elapse before its final passage.

Under date of November 21, Mr. Bray adds:

The following alterations in the Australian tariff have been made by proclamation of the minister of customs, and take effect from this date:

Article.	Previous proposal.	New duty.
	Per cent.	*Per cent.*
Cotton and linen piece goods	15	10
Italians, silesias, linings, n. e. i.; pocketings, flax paddings, buckrams, French canvas, wick (lamp and candle), hair and hop cloth, canvas, hessians, and brattice cloth	Free.	10
Shirtings, n. e. i. (not elsewhere enumerated)	20	10
Apparel and attire, and articles not containing wool or silk, partly or wholly made up (not being piece goods), including articles cut into shape	20	25
Infants' and invalids' foods (special preparations)	20	Free.
Timber, undressed (New Zealand)	(†)	Free.
Tobacco, manufactured	(‡)	(§)

* ADVANCE SHEETS No. 1201; CONSULAR REPORTS No. 256.

† 2s. 6d. (60 cents) per 100 superficial feet.

‡ 3s. 6d. (85 cents) per pound.

§ 3s. 3d. (79 cents) per pound.

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AUSTRALIAN TARIFF CHANGES.

Consul-General Bray sends from Melbourne, December 12, 1901, the following list of customs duties, showing the tariff originally proposed by the minister of customs of Australia and the amendments made by the House of Representatives from October 8, 1901, the date of the introduction of the bill, to and including December 10, 1901:

Article.	Previous proposal.		New duty.	
Division I.—Stimulants.				
Bitters, essences, fluid extracts, sarsaparilla, tinctures, medicines, infusions, and toilet preparations containing—				
Not more than 25 per cent of proof spirit, per gallon	*s. d.*		*s. d.* 3 6	$0.85
Not more than 50 per cent of proof spirit, per gallon			7 0	1.70
Not more than 75 per cent of proof spirit, per gallon			10 6	2.55
If containing more than 75 per cent of proof spirit.....per gallon...			14 0	3.40
If containing spirit over proof, to be charged as spirituous compounds.....per gallon...			14 0	3.40
Division II.—Narcotics.				
Opium, including, as regards smoking opium, the weight of the immediate containing package, per pound	20 0	$4.86	30 0	7.29
Tobacco, viz:				
Manufactured, including the weight of tags, labels, and other attachments.....per pound...	3 6	.85	3 3	.79
Unmanufactured	3 6	.85	3 3	.79
Cigars, including the weight of the bands and other attachments	(*)	(*)	(†)	(†)
Division IV.—Agricultural products and groceries.				
Animals, living, viz, cattle, sheep, pigs, and poultry.....ad valorem...	20 per ct.		Free.	
Biscuits.....per pound...	0 1½	.03	0 1	02
Blue, laundry.....do.....	0 2	.04	0 1	.02
Candles, tapers, and night lights, solid spirit heaters, including the weight of the immediate containing package; stearin, paraffin wax, beeswax, and Japanese or vegetable wax; also lard and refined animal fats.....per pound...	0 1½	.03	0 1	.02
Cocoa beans.....do.....	0 1	.02	Free.	
Cocoa and chocolate, ground or in any way manufactured, or with milk or other substance, cocoa butter, caramel or caramel paste, caramel butter.....per pound...	0 2	.04	0 1	.02
Confectionery, n. e. i., including bonbons and mixed packets of confectionery containing trinkets (gross weight), sugar candy, cachous, and fruits crystallized or candied.....per pound...	(‡)	(‡)	0 2	.04
Fish, fresh, viz, oysters.....per cwt...	2 0	.48	Free.	

* 5s. 6d. ($1.33) and 15 per cent ad valorem.
† 6s. 3d. ($1.52) and 15 per cent ad valorem.
‡ 2d. (4 cents) and 15 per cent ad valorem.

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Article.	Previous proposal.		New duty.	
Division IV.—Agricultural products, etc.—Cont'd.				
Fruits and vegetables, viz:	*s. d.*		*s. d.*	
Vegetables, dried or concentrated..ad valorem...	20 per ct.	.....	15 per ct.	.....
Bananas.....per cental...	.....	.....	1 0	$0.24
Grain and pulse, prepared or manufactured, viz, oatmeal, rolled oats, wheat meal, pearl barley, Scotch barley, maizena, corn flour.....per pound...	0 1	$0.02	0 0½	.01
Honey, jams, and jellies; also preserved ginger in liquid (including weight of liquid).....per pound...	0 2	.04	0 1½	.03
Lime juice and other fruit juices and fruit sirups (nonspirituous).....per gallon...	1 0	.24	0 9	.18
Linseed for making linseed oil.....per cental...	2 0	.48	Free.	.....
Meats, frozen.....per pound...	0 1	.02	Free.	.....
Milk, preserved.....do.....	0 1½	.03	0 1	.02
Mustard seed.....do.....	0 2	.04	Free.	.....
Mustard.....do.....	0 4	.08	0 2	.04
Infants' and invalids' food, n. e. i.....ad valorem...	20 per ct.	.....	Free.	.....
Salt, n. e. i.....per ton...	20 0	4.86	10 0	2.43
Seed, canary, hemp, and rape.....per cental...	15 per ct.	.....	1 6	.36
Soap, viz:				
Perfumed, toilet, and medicated (including the weight of wrappers).....per pound...	0 4	.08	0 3	.06
N. e. i., including polishing.....do.....	0 1	.02	0 0½	.01
Tea .....do.....	(*)	(*)	0 3	.06
Tea in packets.....do.....	(†)	(†)	0 4	.08
Division V.—Apparel and textiles.				
Apparel and attire and articles not containing wool or silk, partly or wholly made up (not being piece goods), including articles cut into shape, ad valorem.....	20 per ct.	.....	25 per ct.	.....
Bags and sacks, viz, onion, potato, sugar, and bandages.....	.....	.....	Free.	.....
Blankets, blanketings, rugs, lap dusters, and rugging; carpets, carpeting, floor cloths, and mats, n. e. i., floor coverings (including felts and pads) and carriage mats, curtains.....ad valorem...	20 per ct.	.....	15 per ct.	.....
Hats and caps, viz:				
Men's, women's, boys', and children's felt hats, per dozen.....	(‡)	(‡)	(§)	.....
Dress hats..... .....per dozen...	48 0	11.67	.....	.....
Hats and caps, sewn.....do.....	3 0	.73	.....	.....
Parasols, sunshades, and umbrellas, viz:				
Containing silk.....each...	(')	(')	(§)	.....
N. e. i.....do.....	(")	(")	.....	.....
Piece goods, viz:				
Woolen or containing wool, n. e. i..ad valorem...	20 per ct.	.....	15 per ct.	.....
Coatings, vestings, trouserings, n. e. i.....	20 per ct.	.....	15 per ct.	.....
Flannels and flannelettes..... .ad valorem...	20 per ct.	.....	15 per ct.	.....
Shirtings, fancy (not being flannelettes).....	20 per ct.	.....	Free.	.....
Cotton and linen piece goods, n. e. i..ad valorem...	15 per ct.	.....	10 per ct.	.....
Cottons and linens, plain white or unbleached; corduroy, imitation moleskin, zephyrs, galateas, denims, prints, bookbinders' cloth, saddlers' web, upholsterers' web, collar check, saddlers' serge, and saddlers' felt label cloth and vellum cloth.....ad valorem...	10 per ct.	.....	Free.	.....

* 2d. (4 cents) and 20 per cent ad valorem.
† 3d. (6 cents) and 20 per cent ad valorem.
‡ 10s. ($2.43) and 15 per cent ad valorem.
§ 30 per cent ad valorem.
18. 6d. (36 cents) and 15 per cent ad valorem.
¶ 6d. (12 cents) and 15 per cent ad valorem.

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Article.	Previous proposal.		New duty.	
Division V.—Apparel and textiles—Continued.				
Piece goods, viz—Continued.				
Piece goods not containing silk, to be used in the manufacture of cloth made waterproof with india rubber, subject to departmental by-laws.....ad valorem...	*s. d.*		*s. d.* 10 per ct.	
Tents, tarpaulins, sails, and flags.....do.....	20 per ct.		Free.	
Yarns, partly or wholly of wool.....do.....	15 per ct.		10 per ct.	
Division VI.—Metals and machinery.				
Rifles, n. e. i., and shotguns.....ad valorem....	15 per ct.		10 per ct.	
Iron, plate and sheet, viz:				
Plain galvanized.....per ton...	15 0	$3.65	Free.	
Corrugated galvanized.....do.....	30 0	7.29	Free.	
Lead, sheet and piping.....per cwt...	2 6	.60	Free.	
Lamps and lamp ware, n. e. i., and lanterns and lamp stoves, and all parts thereof (except chimneys, shades, and globes, gasoliers, and electroliers).....ad valorem...	20 per ct.		15 per ct.	
Division VIII.—Earthenware, cement, china, glass, and stone.				
Earthenware, brown ware, stoneware, n. e. i., and tiles, n. e. i.....per cubic foot...	(*)	(*)	(†)	(†)
Glassware, n. e. i.....do.....	(‡)	(‡)	(†)	(†)
Stone, including marble and slate, viz, monumental, wrought.....per cubic foot...	(§)	(§)	5 0	$1.21

*6d. (12 cents) and 15 per cent ad valorem.
†20 per cent ad valorem.
‡8d. (16 cents) and 15 per cent ad valorem.
¶5s. ($1.21) and 15 per cent ad valorem.

TAXATION IN NEW SOUTH WALES AND NEW ZEALAND.

At the request for information of a number of correspondents, a Department instruction was sent, August 10, 1901, to the consular officers in Sydney and Auckland, directing them to report in regard to the systems of taxation in New South Wales and New Zealand. The answers follow.

NEW SOUTH WALES.

New South Wales was the first settled of the six States of Australia now constituting the Commonwealth.

Its area is 310,700 square miles, or 198,848,000 acres, of which it is estimated 2,965,850 acres are water and 22,700,000 public reserves, mountains, and sterile lands. It would make five States as large as Iowa.

PUBLIC LANDS.

The system of disposing of public lands has been very complex. The attempts of settlers on the one hand to obtain large grants and of the Government on the other to restrict this movement has resulted in land being held under various conditions, which can not be

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explained in full in this report. At first, the granting of lands was loosely guarded, and advantage was taken of the fact, until 46,388,590 acres had been sold by private sale and auction and 127,609,598 acres leased under various conditions, or 173,998,188 acres in all.

Some leases have been made with the condition that the lands may be purchased at the pleasure of lessees. Such lands may be regarded as alienated, which places out of the control of legislation 59,507,034 acres.

If it be true that the water-covered lands amount to 2,965,850 acres, and the public reserves, mountains, and sterile lands to 22,700,000 acres, there would be left but 816,038 acres of land fit for cultivation or grazing. The area is, however, stated by the Government statistician at 35,000,000 acres, probably on the assumption that most of the mountain land may be utilized for grazing. His calculation shows that five-sixths of the area of the State is in the hands of individuals or corporations, valued at £147,818,000 ($719,356,297), but for purposes of taxation at about £115,000,000 ($559,647,500). The total value of property of New South Wales is estimated at £370,000,000 ($1,800,605,000).

In 1899, it was estimated that the adult population numbered 679,700 and that only 180,800 of these were property holders; also that about one-half of the total wealth of New South Wales was in the hands of 2,280 persons.

LAND AND TAXATION.

Land is acquired as freehold by six different methods: (1) Conditional purchase; (2) auction; (3) after auction; (4) improvement purchase; (5) special purchase; and (6) exchange.

All unconditional sales and conditional sales with deferred payments are taxed on the "unimproved value of land" as fixed by land-tax valuation at the rate of 1d. per £1, after deducting £240 ($1,168) from all estates. Special exemption is granted to municipalities and other corporations existing for benevolent purposes. If mortgages stand against the land, 6d. (12 cents) on each £1, paid as interest, is deducted from the tax. More than one-half of the receipts from land is derived from "alienated lands"—that is, lands held as freehold. There have arisen, and are now in existence, thirteen different styles of leases, as follows: (1) Conditional; (2) settlement for agriculture; (3) improvement; (4) pastoral; (5) homestead; (6) occupation licenses; (7) annual; (8) scrub and inferior land; (9) snow land; (10) residential on mining ground; (11) mineral; (12) special; (13) artesian.

Under one or another of these heads, as mentioned before, the State has for certain lengths of time leased 127,669,850 acres of the public domain.

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The gross revenue from lands for 1899 was £2,009,510 ($9,779,280), which includes: Sales, £108,960 ($530,254); conditional purchases, £7,140,240 ($34,747,978); pastoral leases, £702,123 ($3,416,882); and mining, £58,187 ($283,167)—but not land taxes. The total land tax for 1899 was £272,028 ($,1,324,794).

INCOME TAX.

All incomes in excess of £200 ($973) are subject to a tax at a rate that Parliament from time to time orders. At present, the rate is 6d. (12 cents) per £1.

The following are exempted from income tax:

(1) The revenue of municipal corporations or other local authorities.

(2) The income of mutual life-assurance societies and of other companies or societies not carrying on business for purpose of profit or gain, except income from mortgages.

(3) The dividends and profits of the Savings Bank of New South Wales and of the Post-Office Savings Bank.

(4) The funds and income of societies registered under part 3 of the friendly societies act of 1873, or under any act relating to trades-unions.

(5) The incomes and revenues of all ecclesiastical, charitable, and educational institutions of a public character, whether supported wholly or partly by grants from the consolidated revenue fund or not.

(6) Income accruing to any person not resident in New South Wales from Government debentures, inscribed stock, and treasury bills.

(7) Income derived from the ownership of land subject to land tax under parts 2 and 3 of this act.

(8) Income derived directly from the use or cultivation of land subject to land taxation under parts 2 and 3 of this act.

The exemptions declared by subsections 1 to 5 hereof shall not extend to the salaries and wages of persons employed by any such corporation, company, society, or institution, although the same be paid wholly or in part out of the income, revenues, or fund thereof.

INHERITANCE TAX.

This tax is classed under the head of "stamp duties," and is collected from estates of deceased persons. Where the value of the estate exceeds £1,000 ($4,867) and is under £5,000 ($24,333), the rate is 2 per cent; £5,000 ($24,333) and under £6,000 ($29,199), 3 per cent; for each £1,000 ($4,867) over £6,000 ($29,199) up to £10,000 ($48,665), one-fifth of 1 per cent; for each £2,000 ($9,733) over £16,000 ($77,864) up to £40,000 ($194,660), one-fifth of 1 per cent; for each £4,000 ($19,466) over £40,000 ($194,660) up to £100,000 ($486,650), one-fifth of 1 per cent; over £100,000 ($486,650), one-tenth of 1 per cent, after deducting all debts which may be deducted in pursuance of the stamp duties act. The act provides:

In cases where the person dies intestate, leaving a widow or children the only persons entitled in distribution of the estate; or where the widow, or widow and children, or children of a testator are the only persons entitled under the will; or

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where the settlement, trust, disposition, etc., of the estate is for the sole benefit of the widow, or widow and children, or children of the settler, the duty payable is only one-half of that indicated. In cases where, in conjunction with the widow and children, others benefit, the duty is calculated so as to charge one-half of the duty upon the distributive share of the widow, or upon the property devised for the benefit of the widow and children.

For 1899, the receipts were £166,763 ($811,551).

REVENUE.

The income of the colony is derived from the following sources:

Description.	Amount.	
Direct and indirect taxes:		
Customs	£1,305,097	$6,351,254.55
Excise	316,709	1,541,264.34
License	121,760	592,545.04
Land tax (freehold)	272,028	1,323,824.26
Income tax	182,221	886,778.49
Stamp duties	361,887	1,761,123.08
Total	2,559,702	12,456,789.76
Alienation of land:		
Land sales	108,960	532,253.84
Deposits and improvements	38,128	185,554.78
Installments (interest)	886,621	4,313,741.10
Interest (act of 1861)	66,275	322,527.29
Balances due, interest on	97,821	476,045.90
Homestead selections	16,502	80,406.98
Total	1,214,308	5,909,430.89
Occupation of land:		
Leases, pastoral	242,219	1,178,758.76
Conditional leases	158,351	770,615.35
Occupation licenses	108,032	525,737.73
Leases, homestead	51,669	251,447.18
Annual and other leases	94,947	462,059.57
Quit rents	298	1,450.22
Total	655,516	3,190,068.81
Mineral returns:		
Leases, mineral	11,952	58,164.41
Gold lands (leases)	18,016	87,674.76
Miners' rights (leases)	3,944	19,193.48
Royalty on minerals	9,822	47,798.76
Other	3,636	17,694.69
Total	47,370	230,526.10
Miscellaneous land receipts:		
Survey fees	34,892	169,801.92
Special rents	21,024	102,313.30
License, timber	10,817	52,640.93
Other licenses	25,583	124,499.67
Total	92,316	449,255.81
Gross revenue from lands (1899)	2,012,510	9,779,281.41

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Recapitulation of sources of revenue.

Description.	Amount.	
Taxes, direct and indirect	£2,559,702	$12,456,790.00
Revenue from occupation of lands	2,009,510	9,779,281.41
Railways, telegraphs, etc	4,933,273	24,007,773.00
Other revenue	251,290	1,222,903.00
Grand total	9,753,775	47,466,747.41

The public debt June 30, 1899, was £63,762,066 ($310,298,094)—£47 15s. ($232.62) for each inhabitant; annual interest, £2,310,771 ($11,245,367).

MUNICIPAL TAXATION.

Each municipality fixes its own rates of taxation, within limits which vary according to the amount to be expended; and the tax is assessed at 5 per cent on nine-tenths of the value fixed on unimproved land, and on the rent which the improvements should bring. If the property is unoccupied and the owner receives no rent, he is assessed just the same. The rate now payable on Sydney property is 2s. (48.6 cents) per £1, valued as above, which includes lighting. Water and sewerage rates are 7d. (14 cents) on each £1 ($4.8665).

The expense of sewerage, public buildings, roads, and of some other improvements is sometimes met by the State, and sometimes divided between the State and the municipalities.

GENERAL.

As may be seen by the foregoing statements, the sources of revenue are various and the system is not the simplest. It is true there is no tax directly on money, notes, bonds, stocks of goods, jewelry, luxurious furniture, equipages, horses, cattle, sheep, or, in fact, upon any personal property; but as soon as the owner's income runs above £200 ($973), all productive property is taxed indirectly; and if he dies worth over £1,000 ($4,867), the State shares with widow and children the value of lands, improvements, and personal property of all kinds.

"Value" is understood as the price that can be realized. When the value of land goes up because of the buildings put upon or near it, some of the value that is in the houses is conferred upon the lands. In taxing the increased value of the land, the improvements producing the increment are taxed indirectly. If my rich neighbor erects a fine residence adjoining my humble cottage, the value of my land goes up and my tax is increased; but I receive no compensation, as I do not wish to sell; the land is worth no more to live upon than it was, and I live with no more comfort in my cottage than I did before my assessment was increased.

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An area of wild land is of little value, because it is not fenced and has no water. A fence is put up and an artesian well is bored, which make it possible to keep upon the land 10,000 sheep. At once the value of the land goes up, and the tax likewise; but the improvements are not taxed—only the increment caused by the improvements. It would appear that to speak of taxation on the "value of unimproved land" is misleading, and that the value of land can not be determined independent of improvements on or about it.

To say that a house is not taxed when the Government fixes a specific rent that it must bring and then taxes the rent, whether the owner realizes anything or not, would seem also to be fallacious. On houses in which the owner resides, a rental value is fixed, on which value he is taxed.

On careful study of New South Wales methods of taxation, I do not see that the burden is more equally distributed than in the United States.

ORLANDO H. BAKER,
Consul.

SYDNEY, *November 26, 1901.*

NEW ZEALAND.

From official data, I learn that the direct taxation prior to 1892 consisted of a property tax of 1d. (2 cents) per £1 ($4.86) on all assessed real and personal property, with the exception of £500 ($2,433.25) and the stamp duties; but in 1891, a land and income tax act was passed repealing the property tax. The act of 1891 provides for an ordinary land tax on the actual value of the land, and the owner is allowed to deduct any amount owed by him secured on a registered mortgage. Under the original act, the deduction for improvements might not exceed £3,000 ($14,599.50); but, by an amendment of 1893, the value of all improvements whatsoever is exempted from liability to land tax. Besides this, an exemption of £500 ($2,433.25) is allowed when the balance, after deductions as stated, does not exceed £1,500 ($7,299.75); and above that a smaller exemption is granted, but ceases when the balance amounts to £2,500 ($12,166.25). Mortgages are subject to the land tax.

LAND TAX.

The revenue from the ordinary land tax, in round numbers, is £215,000 ($1,046,297.50) per annum. The rate of ordinary land tax for 1899–1900 was 1d. (2 cents) per £1. Occupied native land is taxed one-half of 1d. (1 cent) per £1 on the unimproved value. In addition to the ordinary land tax, there is a graduated land tax which commences when the unimproved value is £5,000 ($24,332.50).

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From the graduated land tax the present value of all improvements is deducted, but mortgages are not deducted. The act of 1893, while reducing the ordinary taxation of land by exempting all improvements, increased the graduated tax, and the revised rates are now one-eighth of 1d. (0.25 cent) per £1 ($4.86) when the value is £5,000 ($24,332.50) and is less than £10,000 ($48,665), and increase with the value of the property by further steps of one-eighth of 1d. (0.25 cent) until the maximum of 2d. (4 cents) per £1 is reached, payable when the value is £210,000 ($1,021,665) or exceeds that sum. This graduated tax yields, in round numbers, £83,000 ($403,919.50) per annum, which is not included in the sum of £215,000 ($1,046,290.50) given above. Twenty per cent additional tax is levied in the case of persons who have been absent from the colony for three years or more prior to the passing of the yearly taxation act. This amounts to about £1,000 ($4,866.50), and is included in the £83,000 ($403,919.50) shown above.

INCOME TAX.

Income tax is levied on all incomes above £300 ($1,459.95), and from taxable incomes a deduction of £300 ($1,459.95) is made. The rate of income tax for 1899–1900 was 6d. (12 cents) per £1 on the first taxable £1,000 ($4,866.50) and 1s. (24.3 cents) per £1 on taxable incomes over £1,000. Companies pay 1s. per £1 and are not allowed the £300 ($1,459.95) exemption. The act of 1893 further disallowed the £300 exemption in the case of persons not domiciled in New Zealand. The revenue derived from the income tax for 1900 may be roughly set down at £115,500 ($562,080.75).

REVENUE.

The indirect tax is made up of customs duties and excise duties on beer made in the colony. The following statement shows the total amount raised by the general government taxation in 1885 and 1890 and the last four financial years ended March 31:

Year.	Amount of revenue by taxation.		Amount per head of population, excluding Maoris.			
			£	s.	d.	
1885	£2,016,730	$9,814,415.54	3	10	10	$17.22
1890	2,173,085	10,579,697.15	3	10	0	17.02
1895 96	2,331,701	11,362,113.85	3	7	1	16.31
1896 97	2,521,911	12,272,879.88	3	11	0	17.26
1897 98	2,678,576	13,035,289.85	3	13	11	17.97
1898 99	2,707,009	13,174,097.28	3	13	3	17.81

The average annual amount of revenue raised by taxation during the nine years 1882–1890, inclusive, was £3 8s. 11d. ($16.76) per head of population, excluding Maoris. It is claimed by friends of

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the act of 1893 that a rise in the rate of taxation per head of population (if there is no increase in the rate of any particular tax) indicates a satisfactory condition of business and shows activity.

INDIRECT TAXES.

As to the customs, notwithstanding modifications of the tariff in 1895, the value of the imports was greater in 1899 than in the previous years, which would indicate a greater purchasing power than before. The quantity of stock on hand at the beginning and end of the last two years, and disturbances of prices during that period, would perhaps modify the above argument. As the Maoris contribute somewhat to the customs revenue, an allowance should be made on that account, to ascertain more correctly the amount of tax per head of the rest of the people. The customs and excise duties per head of the rest of the population would be reduced to 2s. 10d. (68 cents) for the year 1899–1900. If this amount be deducted from the taxation per head given for that year, the rate would be reduced from £3 13s. 3d. ($17.81) to £3 10s. 5d. ($17.12). This may be fairly compared with the rates in the neighboring colonies. Of the total amount of tax stated from 1897 to 1900, the indirect taxation—*i. e.*, customs and excise duties—amounted to £2,041,231 ($9,933,650.66), while land and income taxes, with stamps for taxation, yielded £665,868, ($3,240,446.62), which constitutes direct taxation, so that the colony still obtains 75 per cent of its revenue from taxation by means of the indirect method.

MUNICIPAL TAXES.

The various local bodies levied taxation during the year ended March 31 to the amount of £739,918 ($3,600,810.94), or £1 5d. ($4.96) per head of European population. Of the total sum, £439,418 ($2,138,427.70) was raised by general rates, £205,134 ($998,284.61) by special and separate rates, £76,960 ($374,525.84) by licenses, and £18,406 ($89,572.79) by other taxes.

FRANK DILLINGHAM,
Consul.

AUCKLAND, *October 25, 1901.*

GOLD IN MADAGASCAR.

News recently received from Madagascar indicates that the island is about to justify the hopes which have been entertained by numerous engineers as regards mineral resources.

Circumscribed auriferous regions, said to be very rich in the precious metal, are being worked on the eastern slopes and near the port of Manangary. The gold is in the form of small nuggets

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or of dust, taken from the alluvial deposit carried down by two streams from a neighboring mountain. It is supposed that the metal is derived from the disintegration of rocks situated at the origin of these streams, at a point not yet determined, and that there will be found the principal lode.

The washing of the alluvial deposit is effected in a kind of large wooden dish, in which the auriferous earth is placed—a very primitive method, but for the present sufficiently remunerative.

The work is mostly done by the natives under the direction of Europeans, as they alone can stand the rays of a tropical sun, as well as remain in the water for hours each day.

Already, two prospectors have discovered blocks of quartz which they estimate as capable of furnishing 4 ounces to the ton. Traces of the metal have been found more or less over the whole island.

HILARY S. BRUNOT,

ST. ETIENNE, *December 3, 1901.* *Consul.*

UNITED STATES MINING SYNDICATE IN PERU.

Mr. Neill, secretary of legation at Lima, under date of November 25, 1901, reports the formation of an American syndicate, with headquarters in New York City, for the purchase and working of copper and other mines in Cerro de Pasco, Peru. He submits the following statistics regarding this district:

Cerro de Pasco is situated 14,300 feet above the sea level at a distance of about 220 miles from the Port of Callao. The ores of this district contain gold, silver, lead, and copper. The amount of silver coined, smelted, and exported from Peru, from 1786 to 1850, was 285,613,796 ounces, of which 161,451,731 ounces were from Cerro de Pasco alone. The silver ores obtained from these mines have given an assay of nearly 50 per cent of silver to the ton, while others have given 70 per cent of lead. The exportation of copper ores from Cerro de Pasco in the year 1900 was 11,944.2 metric tons, besides 5,138 tons of copper bars; these ores, on being assayed, have given grades between 18 and 40 per cent.

The construction of a railroad from Oroya to Cerro de Pasco would be a most remunerative investment, as the proposed freight of 24 soles ($11.66) per ton, instead of the 70 or 80 soles ($34 or $39) now paid for the same amount on the backs of llamas, would allow a quantity of ore to be exported which is at present impossible. There are coal mines at a distance of 22 to 31 miles from Cerro de Pasco, and a narrow-gauge railway is about to be constructed, which will allow this mining district to obtain coal at about $3.88 per ton,

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instead of paying, as at present, $24.85 per ton. Up to the present time, the American syndicate owns five-sixths of this district, having acquired 480 mines.

It is reported that another syndicate is being formed for the purpose of securing and working the rich copper mines in the Yauli district, 120 miles from the port of Callao, at 13,400 feet above the level of the sea. These mines are in the immediate vicinity of one of the stations on the Trans-Andine Railroad, begun a quarter of a century ago.

TELEGRAPH SYSTEM OF BRAZIL.*

The telegraph lines in Brazil are almost entirely owned and operated by the Federal Government. The States of Sao Paulo, Rio Grande do Sul, and Ceara have a few comparatively unimportant and unprofitable lines. Certain railroads are permitted to take messages for transmission between points not served by the federal lines and are said not to confine themselves to those points. The cable between Para and Manaos is privately owned, though receiving a subsidy from the Government. The coastwise foreign-owned cables do much of the business between the ports from Pernambuco to Santos, as well as practically all the service to points abroad.

The first telegraph line in Brazil was established in 1861, serving Rio and Petropolis. The serious development of a system to serve the whole country began in 1865. The plan adopted is a main line running along the entire sea coast with branches out into the populated regions. In at least three instances, these branches are connected, thus furnishing separate overland communication between Pernambuco and Bahia, Bahia and Rio, and Paranagua and Porto Alegre, in addition to the coast line.

The main line was completed south to Porto Alegre, the capital of the most southern State, in 1867. It had got north as far as Campos, the largest city in the State of Rio, in 1868. In 1872, building south from Pernambuco was begun, reaching Bahia in 1874 and connecting through to Rio in 1876. Subsequently, the line was extended north from Pernambuco, reaching Para, its extreme northern terminus, in 1886.

When the Republic succeeded the Empire in 1889, the coast cities and the principal points in the interior on lines of railway had telegraphic service. Under the Republic, the policy was to extend the branches to reach all populated centers, and the total length of the line was nearly doubled in the following six years. In 1897,

* This report, Mr. Dawson says, was made in reply to several inquiries for information.

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the financial difficulties of the Government interrupted the building, until then actively prosecuted.

When the Republic was established, the Government-owned lines measured 10,522 kilometers (6,538 miles). The amount of building each year has been as follows:

Year.	Length.	
	Kilometers.	*Miles.*
1890	1,374	854
1891	1,535	954
1892	903	561
1893	1,296	805
1894	938	583
1895	1,606	998
1896	1,540	957
1897	None.	.....
1898	622	387
1899	112	69

The main coast line extends from Para to Jaguarao, on the Uruguayan border, is 6,849 kilometers (4,256 miles) long, and has 23,837 kilometers (14,812 miles) of wire. From Para to Viseu (State of Para) there are 2 conductors; from Viseu to Pernambuco, 3; from Pernambuco to Anchieta (Espirito Santo), 4; from Anchieta to Manguaratiba (State of Rio), 5; from Manguaratiba to Santos, 4; from Santos to Pelotas (Rio Grande do Sul), 3; from Pelotas to Jaguarao, 2.

Para has 2 branches; Maranhão, 2; Piauhy, 2; Ceara, 2; Rio Grande do Norte, 3; Parahyba, 1; Pernambuco, 4; Alagoas, 7; Sergipe, 3; Bahia, 6 (one extending into Minas Geraes); Espirito Santo, 7; Rio de Janeiro, 13 (two extending into Minas); Sao Paulo, 2 (one extending into Goyaz and Matto Grosso); Parana, 5; Santa Catharina, 6; Rio Grande do Sul, 4.

Not including the privately owned cables, the total length of line open to the use of the public is as follows:

Description.	Length of line.		Length of conductors.	
	Kilometers.	*Miles.*	*Kilometers.*	*Miles.*
Main line	6,849	4,256	23,837	14,812
Branches	13,699	8,513	16,906	10,505
Owned by railways	2,619	1,627	2,967	1,844
State lines (estimated)	800	497	900	559
Total	23,967	14,893	44,610	27,721

These are the figures for the beginning of 1900, and there has been but little added since.

The length of Government-owned line was 20,548 kilometers (12,769 miles), and of conductors 40,744 kilometers (25,318 miles).

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The number of stations was 369, distributed among the States as follows:

State.	Number of stations.	State.	Number of stations.
Para	8	Espirito Santo	15
Maranhão	13	Rio de Janeiro and Federal District	47
Piauhy	14	Sao Paulo*	16
Ceara	12	Parana	18
Rio Grande do Norte	10	Santa Catharina	16
Parahyba	8	Rio Grande do Sul	41
Pernambuco	30	Minas Geraes	35
Alagoas	20	Goyaz	5
Sergipe	12	Matto Grosso	6
Bahia	39	Amazonas	None.

* Most of this State is served by railway and State-owned lines.

In the year 1899, 1,348,956 messages, containing 21,284,437 words, were transmitted, for which the average charge was 4,613 reis per message and 391 reis per word. Expressed in terms of United States currency at the average rate of 1899, these were equal to 69.2 and 4.4 cents, respectively, and, at the present rate, to $1.09 and 6.9 cents. The milreis tolls have not been decreased to correspond with the rise in exchange.

Six hundred reis (8.2 cents) are charged as a fixed tax on each message, no matter what its length, and in addition thereto for each word, including address and signature, from 120 reis to 1,070 reis. The minimum rate is confined to messages to stations in the State where the message originates. To the next adjoining State, at least twice as much is charged, and the rate increases by States with their remoteness.

The rates on the foreign-owned cable lines, which are much used between the coast cities on account of the superiority and certainty of delivery and intelligibility, are about twice as high.

Just prior to the fall of the Empire—1888 and 1889—the average rates were 12 and 13 cents a word. The republican administration reduced them considerably, and this, coupled with the rapid depreciation of the sterling value of the milreis, made the rate only 2.2 cents in 1897. That year there were 30,127,789 words transmitted at a milreis average of 145 reis. Rates were doubled, beginning with 1898, and press messages put at 50, instead of 25, per cent of ordinary telegrams. The result was that, in 1898, the total number of words dropped to 20,623,683, and increased very slightly over that in 1899. While no statistics are yet available for 1900, I am informed that the amount of business has fallen considerably below 1899.

The following table gives the number of telegrams, the total number of words, the average charge per word in reis, and the

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same reduced to United States currency at the average rate for each year:

Year.	Number of telegrams.	Number of words.	Charge per word.	
			Reis.	*Cents.*
1888	521,986	5,804,955	222	12
1889	637,382	7,917,432	246	13.3
1890	750,621	10,544,558	190	8.5
1891	1,001,535	15,950,330	171	5.6
1892	1,151,689	18,426,160	167	4
1893	1,132,432	19,204,068	164	3.7
1894	2,283,695	20,640,655	166	3.4
1895	1,436,541	22,726,720	157	3.1
1896	1,666,827	26,510,919	156	2.8
1897	1,722,174	30,127,789	145	2.2
1898	1,379,755	20,623,683	294	4.2
1899	1,348,956	21,284,437	291	4.4

The price in Brazilian currency represents more accurately than its equivalent reduced to United States currency the real cost to the consumer. Wages and the purchasing power of the milreis do not respond readily to the fluctuations of exchange.

The tariffs have been changed repeatedly since the system has been in operation. From 1865 to 1870, 1 milreis (54 cents) was charged between consecutive stations for each message of twenty words or less, one-half of this amount being added for each additional ten words or fraction thereof. A message from Rio to Porto Alegre, the eighth station, cost 8 milreis ($4.40); at present rates it would be 11.400 milreis (at current exchange, $2.67). In 1870, the unit was changed to 200 kilometers for distances up to 1,000 kilometers,* 300 for distances between 1,000 and 1,600, and 400 for distances between 1,600 and 4,000, the charge of 1 milreis being made for each of these units of distance or fraction thereof, instead of for the old unit of the distance between consecutive stations. This effected a small reduction on long-distance messages.

In 1881, the word system of charging was adopted—100 reis per word for each 400 kilometers. This proportional system was followed by an increase of over 30 per cent in the volume of business, with at least an equal increase in receipts. In 1890, the rate was reduced to 70 reis per word on the same distance basis. In 1895, it was further reduced to 60 reis, with a fixed tax of 400 reis on each telegram, and both these reductions were followed by a great augmentation of traffic, as will be noted by reference to the tables already given. At the same time, the revenue increased from 2,042,755 milreis in 1890 to 4,857,760 in 1897. But this increase was accompanied by a drop of 75 per cent in the exchange value of the milreis, and the expenses

* 1 kilometer=0.62137 mile.

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ran up in even faster proportion. To make up for this drop in exchange, the present tariff was adopted, substituting the State as the unit instead of a given distance, and doubling the charge per word. It amounted practically to doubling rates, and on account of the recent rise in exchange it turned out that it tripled them. The result is that traffic has fallen off a third, while the revenue has increased over a third in milreis and something like two-thirds measured in gold.

The officially reported cost of operating the department in 1899 was 7,505,952 milreis, equivalent at the then exchange to $1,126,000 and at the present to $1,771,000. In addition, the subsidy to the Para Amazon Cable Company of £17,125 was paid and 432,000 milreis to other companies to indemnify them for tolls collected by the Brazilian Government for joint traffic. Reduced to terms of milreis at the then exchange, the total expense was 8,415,000 milreis, or $1,276,000. Two thousand nine hundred and twenty-seven persons were employed; 140 in the central administration, 1,391 on the line, and 1,396 in the stations. They were paid 5,891,502 milreis ($893.152).

The revenue from private telegrams within the country was 4,717,445 milreis; from official telegrams sent by and charged against other departments, 1,036,762 milreis; from Brazil's proportion of telegrams from and to foreign countries, 360,894 milreis. When a telegram is handed in at a Government office, it is sent to the frontier or to the farthest point at which the cable touches, and the tax for that maximum distance retained in settling with the cable company. If the sender desires it to reach the cable as soon as possible, it is delivered at the nearest point and 200 reis a word retained. For telegrams directed from abroad to a point on the national lines, 400 reis a word must be paid. This is the contract with the cable companies, but in practice an average is fixed and retained.

The department has never paid for itself. According to the official computation, which does not charge to the department the amounts owed to foreign companies for money collected on their account, nor the subsidy to the Amazon Company, the deficits in proportion to the expenses have been:

Year.	Deficit.	Year.	Deficit.
	Per cent.		*Per cent.*
1888	36	1894	52
1889	14	1895	61
1890	29	1896	51
1891	25	1897	41
1892	40	1898	6
1893	46	1899	7

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Adding the two omitted items, the deficit in 1899 was 17 per cent

Formerly, a fee of 10 milreis was charged for the registration of a code address. This has now been raised to 25 milreis ($6).

The average number of words per message for private, Government, and State telegrams, respectively, was:

Year.	Private.	Government.	State.
1897	13.27	32.3	33.41
1898	11.6	32.3	29.7
1899	11.42	33.18	31.75

In 1899, there were 2,869 accidents, interrupting traffic on the 20,548 kilometers in operation. The poles, where they are not of iron, frequently fall; trees fall upon the wires and interrupt the connection; birds light upon the wires; and wires break and insulators fail to operate. Storms are rarely responsible for the interruptions.

The report of the director-general of the national lines states that the Western Telegraph Company, which has cables from Pernambuco south, does the larger portion of the service requiring speed and punctuality between the coast cities, in spite of the rates being higher. He makes this an argument against reducing rates. Of the international messages to the republics to the south, 75 per cent are sent by the cables in preference to the Government land lines; of those to Europe and North America, 91 per cent. He complains also of the competition in the States of Sao Paulo, Parana, and Rio Grande do Sul by the railway companies, whose service is cheaper and prompter. He recommends a rigid enforcement of the provisions prohibiting such traffic between points served by the national lines, and, as to the competition of the Western and Brazilian, the improvement of the service and the putting in of modern multiple instruments.

The practice now is to fix the tolls for telegrams sent abroad in terms of gold francs, and at intervals the value of the milreis is fixed in terms of francs approximating its real value. At present, the official rate is 800 reis per franc (19.3 cents). In 1898 and 1899, it was 1,200, 1,300, and 1,400 reis.

The only important building undertaken lately was the construction of sixty-four telephone lines for the use of the different federal and municipal departments in the city of Rio. There is also a public exchange owned by a company and open to the use of the public. In seven other States, fifty-three stations on the Government telegraph lines have telephonic service.

THOMAS C. DAWSON,
Secretary of Legation.

PETROPOLIS, *November 8, 1901.*

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COFFEE MARKET OF BRAZIL.

The coffee trade of Brazil is undergoing a very healthy change. Forced by small profits, dealers and planters are combining against the unnecessary expenses with which the trade has heretofore been encumbered—hardly noticeable when profits were enormous, but very onerous since the conditions of the market have become precarious through overproduction.

Heretofore, the planters shipped their coffee to the "commissarios," on whom they were more or less dependent financially, and the commissarios supplied the wholesale dealers, who in turn sold to the exporters.

The tendency is toward the abolition of the middlemen. The principal exporters have already commenced to deal with the planters directly, thus saving expense, time, and friction, and benefiting producer and consumer.

American firms, which heretofore have had to deal with privileged warehouses, have recently acquired abundant storage facilities with water front and dock privileges, whereby the hauling and docking expenses have been considerably diminished.

Reports have to-day been cabled by reliable houses to the United States and Europe that the growing coffee crop (to be marketed after the 1st of July, 1902) has been badly damaged by drought. They estimate the probable yield of the present crop at 7,500,000 bags*—2,500,000 Rio, 4,000,000 Santos, and about 1,000,000 for the various other ports—about half the quantity of this year's harvest. There is hardly any doubt that these reports correspond with the facts. More detailed figures will be obtained about the commencement of December, when the Association of Factors (composed of the principal commissarios and wholesale dealers of Brazil) will meet and compare notes.

Coffee prices have, in the last few days, taken a sharp upward turn, and speculators have profited extensively by the situation thus created.

As, on account of the overproduction of recent years, a large surplus of coffee is stored in the principal markets of the world, it is doubtful whether a considerable advance in the medium grades of coffee can be maintained.

EUGENE SEEGER,

RIO DE JANEIRO, *November 12, 1901.* *Consul-General.*

*Of 132 pounds each.

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BRAZILIAN COFFEE CROP.

Referring to my report of November 12, 1901,* I transmit additional information concerning the next coffee crop (harvest of 1902–3) of Brazil.

The Association of Factors of Rio de Janeiro—composed of the principal "commissarios" and "ensaccadores"—has published today the official report concerning the next coffee crop in the Rio de Janeiro district. The following is a translation:

> In consequence of the drought, which continued several months, and the fact that on account of the very low prices prevailing many plantations have not been thoroughly worked, only a partial harvest is to be expected.
>
> The commission is of the opinion that the next coffee crop (1902–3) may be calculated at 2,250,000 bags,† if between this date and the time of maturing of the berries circumstances do not happen which will influence the crop.

While the gentlemen composing the commission are merchants of high standing and are absolutely reliable, they are very conservative. They underestimated the present crop (1901–2) about 20 per cent.

Simultaneously with the publication of this report, the telegraph brought news of very copious rains in many parts of the coffee district. This will certainly have an influence on the quantity of the next crop.

Concerning the Santos district, Mr. William Lawrence, our viceconsul at Santos—an expert in coffee matters—sends me the following cablegram:

> In our opinion, maximum next crop five and one-half millions, including any hold over.

Taking everything under careful consideration, I am of the opinion that the pessimistic reports sent out in the beginning of November have been contradicted by subsequent events, and that Brazil will have a fair coffee crop next year—probably from 9,000,000 to 10,000,000 bags.

In view of these figures, and the fact that there is a large visible supply of coffee in the commercial centers of the United States and Europe, there seems to be little ground to anticipate a material increase in coffee prices in the near future.

EUGENE SEEGER,
Consul-General.

RIO DE JANERIO, *December 3, 1901.*

*ADVANCE SHEETS No. 1229 (January 3, 1902).
†Of 132 pounds each.

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DAIRY PRODUCTS IN BRAZIL.

Although the import of dairy products into Brazil has materially decreased, on account of hard times, the trade is well worth looking after. American dairy interests, however, are not adequately represented here. Brazil is undoubtedly a good field for our products in this line, but it must be cultivated by the skillful hand of the expert.

For the first quarter of 1901, the imports into Brazil were:

	Milreis.
Condensed milk*	169,590=$42,397
Butter in tins	589,195=147,298
Cheese	345,053= 86,263

The butter and cheese were furnished by the following countries:

Description.	Value.	
	Milreis.	
Butter in tins:		
France	301,329	$75,332
Denmark	141,566	35,391
Italy	65,451	16,362
United States	53,940	13,485
Cheese:*		
Italy	189,118	47,279
Holland	131,078	32,769
Switzerland	8,887	2,222
France	6,453	1,613
England	4,646	1,161

*The United States furnished none at all.

The import duties per kilogram (2.2 pounds), including tins, are:

	Milreis.† Cents.
Condensed milk	0.500=12.5
Butter	1.200=30
Oleomargarine	2.400=60
Cheese	1.200=30

When imported in boxes, there is an 18 per cent deduction.

The imports into the Rio de Janeiro market, during the past year, were 30,000 boxes, against 51,235 boxes in 1899, each box containing, as a rule, 24 tins of 1 kilogram (2.2 pounds) each. Some contain 48 tins of half a kilogram (1.1 pounds) each. A very little is imported (from Denmark) in jars of 10 kilograms (22 pounds) and tins of 5 kilograms (11 pounds) each.

*Of which Switzerland furnished 85 per cent, and the United States none.

†The present market value of the milreis is 25 cents. Twenty-five per cent of the duty is payable in gold.

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As to the country of origin, the import is divided as follows:

	Boxes.
France	16,883
Italy	4,926
United States	1,311
Other countries	6,995
Total	30,115

The wholesale prices, exclusive of duty, varied from 2.100 to 2.950 milreis (52.5 to 73.7 cents) per kilogram.

The present retail prices in the Rio market are:

Description.	Retail price.	
French:		
F. Demagny, in Isigny—	*Milreis.*	
Per kilogram	5.500	$1.37
Per half kilogram	2.800	.70
J. Lepelletier, in Isigny—		
Per kilogram	5.000	1.25
Per half kilogram	2.600	.65
Laiterie de L'Abbaye—		
Per kilogram	5.000	1.25
Per half kilogram	2.500	.625
Danish:		
L. B. Brun, Copenhagen—		
Per kilogram	5.600	1.40
Per half kilogram	2.800	.70
P. F. Esbensen, Copenhagen—		
Per half kilogram	2.800	.70
Per kilogram	5.600	1.40
Per 2 kilograms	11.000	2.75
Per 10 kilograms	52.000	13.00
Italian (Anchor brand, Genoa):		
Per half kilogram	2.400	.60
Per kilogram	4.600	1.15

Danish butter is considered the best here, probably because it is the best packed.

The item of packing is of course very essential in this market, where there is a warm and sometimes a very hot temperature and no ice used in storing. In the retail stores, the butter in tins is simply placed on the shelves alongside the dried fish, soap, and kerosene, where it remains, often for months, until used. It requires a well-prepared article to stand this treatment.

EUGENE SEEGER,

RIO DE JANEIRO, *November 23, 1901.* *Consul-General.*

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THE FLOUR MARKET AT RIO DE JANEIRO.

Flour millers and dealers in the United States, I think, overestimate the importance of the Brazilian market.

Considering the number of inhabitants of Brazil, the consumption of wheat flour here is small. The so-called lower classes—about 80 per cent of the population—are not consumers of this article, but content themselves with the roots and beans they cultivate. The home production of wheat flour has lately increased far beyond the demand, in consequence of which the Brazilian milling industry—in the south conducted by Germans, in the State of Sao Paulo by Italians, and in Rio by Englishmen—does not at present even yield interest on the capital invested.

The Brazilian mills are fed exclusively by wheat from Argentina and Uruguay; but in the near future, a great part of their supply will probably be obtained at home. The State of Rio Grande do Sul was formerly a wheat-exporting State.

But no matter how much the local milling industry may develop, or how the import duties may be arranged, there will always be a certain limited demand for American flour in the coast cities of Brazil, because they need it for the finer grades of bakery products and to mix with the River Plata or Brazilian flour. Flour from wheat produced in a colder climate will keep much longer and has other advantages over flour from wheat grown in semitropical zones.

As a wise concession to the peculiarities of the Brazilian markets, American exporters have lately commenced to change their method of packing flour.

The export in bags at 44 kilograms (97 pounds)—equivalent to half a barrel—from the United States has considerably increased, and will probably advance still further in the future. The packing in bags will facilitate trade in Brazil; it is apt to make American flour more popular in the interior and bring it within the reach of people who are in the habit of carrying their necessaries home on their heads.

Only a comparatively small portion of this immense and sparsely settled country enjoys railroad facilities, or even country roads and bridges. Merchandise intended for the masses outside of the coast cities must therefore be packed so as to facilitate transportation on mule back or on the heads of the natives. For instance, the consumption of kerosene in Brazil has very materially increased since the exportation from the United States in small tins, instead of barrels, was inaugurated. The same will be the case with American flour packed in sacks at 44 kilograms (97 pounds) each.

Flour packed on mules is so arranged that a bag is fastened on

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each side of the animal; it could not carry a barrel across mountains and streams.

This is the principal reason why the Brazilian and Argentine mills ship their flour in bags. This is also the cause of the agitation on the part of the Brazilian mills for an increase of the duty on flour in bags. Such an increase would be of great advantage to them, and would diminish the American flour trade as well as the Argentine. In consequence of the facts that, on account of overproduction, the Brazilian mills are working without any profit, and that the precarious financial condition of the country makes commercial ventures hazardous, the Brazilian flour market is at present not very important to American dealers.

The market statistics at Rio de Janeiro for 1900 show the following figures as to imports:

	Barrels.
On hand in January 1	20,000
Received during the year	381,083
Total	401,083
Sold	359,083
On hand December 31	51,000

The following were the countries of origin:

	Barrels.
United States	228,444
River Plata	141,523
Various others	11,116
Total	381,083

The Rio flour mills imported during the same period from Argentina and Uruguay 65,223 tons of wheat, which was converted into 1,095,125 bags (547,564 barrels) of flour.

Bags do not figure in the import statistics, as the duties are figured per barrel. Two bags, of 44 kilograms (97 pounds) each, are counted as one barrel. The prices paid were as follows per barrel:

Month.	United States.	River Plata.	National.
	*Milreis.**	*Milreis.**	*Milreis.**
January	38.000 to 43.000	32.000 to 36.000	40.000 to 43.000
February	39.000 to 46.000	30.000 to 40.000	40.000 to 46.000
March	34.000 to 39.000	28.000 to 36.000	35.000 to 39.000
April	36.000 to 42.000	33.000 to 38.000	38.000 to 41.000
May	32.000 to 37.000	30.000 to 33.000	32.000 to 37.000
June	26.500 to 33.000	Nominal.	28.000 to 33.000
July	26.000 to 30.000	24.000 to 26.000	25.000 to 29.000
August	28.000 to 32.000	24.000 to 28.000	27.000 to 30.000
September	29.500 to 32.000	23.000 to 28.000	24.000 to 29.000
October	27.500 to 29.500	22.000 to 27.000	23.000 to 28.000
November	28.000 to 32.000	24.000 to 28.000	27.000 to 31.000
December	29.500 to 31.000	25.000 to 29.000	29.000 to 31.000

*On account of the fluctuation in value of the milreis, no attempt has been made to give the United States equivalents in this table. The present value is 23.6 cents; 1,000 reis=1 milreis.

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The milreis price of wheat is, of course, largely influenced by the fluctuations in the paper milreis, a rise in the market value of the paper currency being almost always immediately followed by a fall in the milreis price of the merchandise.

During the first three months of the current year, the value of the wheat flour imported into Brazil, according to official statistics, was 6,116,034 milreis ($1,443,384)—3,835,260 milreis ($905,121) from the Argentine Republic, 1,840,749 milreis ($538,263) from the United States, etc.

The relative increase of American flour in bags at Rio in 1901 is shown by the following figures:

Month.	From the United States.		From the Argentine Republic.	From Liverpool.
	Barrel.	*Bags.*	*Bags.*	*Bags.*
July	31,800	.....	37,400	6,000
August	20,850	1,500	35,116	5,000
September	17,000	750	9,957	.....
October	10,700	3,000	37,000	1,000
November 1 to 15	7,650	6,900	10,000	.....

The bags contain 44 kilograms (97 pounds) and the barrels 88 kilograms (194 pounds) of flour. Recently, there were also 1,000 bags of flour received from France. In Santos, they have also imported of late a good deal of American flour in bags.

I was informed by one of the principal American dealers here that the flour in bags costs 5 to 10 per cent less in the American market than the flour in barrels.

The Brazilian import duty per kilogram on wheat is 10 reis (0.23 cent); on flour, 25 reis (0.59 cent). At present quotation, a milreis is worth 11.2132d. (23.6 cents). In addition to this duty, all dispatches pay 10 reis (0.23 cent) per volume for maintenance of the statistical department. Twenty-five per cent of the duty must be paid in gold. In order to illustrate the application of the tariff to flour, I will give an example.

If 1,000 barrels of flour were taken out of the Rio custom-house to-day, the duty would be calculated as follows:

	Milreis.
1,000 barrels (88,000 kilograms, at 25 reis)	2,200
For the department of statistics	10
Total	2,210
One-fourth (550 milreis) payable in gold at 11.2123d	1,274
Three-fourths payable in currency	1,660
Total	2,934

The duty per barrel is thus 2.934 milreis (69.2 cents).

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important to American dealers.

The market statistics at Rio de Janeiro for 1900 show the
ing figures as to imports:

	Barrels.
On hand in January 1	2
Received during the year	561,0
Total	561,0
Sold	509,5
On hand December 31	51,5

The following were the countries of origin:

	Barrels.
United States	220,1
River Plata	141,5
Various others	19,4
Total	381,0

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June	26.500 to 33.000	Nominal.	28.000 to 33
July	26.000 to 30.000	24.000 to 26.000	25.000 to 29
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Three in currency.....	1,660
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arrel is thus 2.934 milreis (69.2 cents).

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If the bill adopted by the Brazilian House of Representatives and now before the Senate becomes a law, the flour imported in bags will pay 40 per cent more than at present.

In other words, two bags at 44 kilograms each will be figured as one barrel, and to the duty of 2.934 milreis (69.2 cents) per barrel 40 per cent will be added; there will consequently be a duty of 2.934 milreis (69.2 cents) plus 1.173 milreis (27.6 cents), or 4.107 milreis (96.8 cents) per two bags. As 25 per cent of the duties have to be paid in gold and the currency equivalent of gold constantly fluctuates, the amounts payable for duty change correspondingly.

EUGENE SEEGER,
Consul-General.

RIO DE JANEIRO, *November 16, 1901.*

GAS COMPANY IN RIO DE JANEIRO.

From a prominent representative of Belgian capitalists I have received the following information, which may be of interest to American investors, especially in the gas and electrical industries.

The gas company in Rio, which consists exclusively of Belgian capitalists and their representatives and enjoys valuable rights and privileges, is very much in need of funds to make improvements and extensions necessary on account of the largely increased demand and the more modern requirements.

In order to develop the earning power, the capacity of the plant ought to be greatly enlarged and an electric plant added.

The estimate of expenses for the necessary improvements amounts to about $3,000,000, which sum the company seems to be unable to raise here or in Belgium.

The capital invested in the plant up to date is about $10,000,000, and the company's contract with the city expires in forty-five years. The managers would be willing to transfer all their rights and privileges and the controlling interest of the property to an American syndicate which would undertake the necessary improvements, provided they could be accorded a fair share in the net earnings of a new company to be organized on that basis. I was handed the inclosed copy of the Messager de Bruxelles, containing the official report of the last meeting of the stockholders.*

Capitalists interested in this enterprise can have the inclosure translated for their benefit. I will of course be glad to procure any additional information desired.

EUGENE SEEGER,
Consul-General.

RIO DE JANEIRO, *December 4, 1901.*

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* Filed in the Bureau of Foreign Commerce, where it may be consulted by interested parties.

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THE "MANAVI" HAMMOCK OF ECUADOR.

There has been for some time a noteworthy demand for the jipijapa, or manavi (so-called panama), hat, comparatively large shipments being made by every steamer to the United States. American merchants may therefore be interested in learning something of the manavi hammock, which I believe will, as soon as introduced, become very popular in our country. Like the jipijapa hat, this article commends itself because of its durability, artistic workmanship, comfort, and general superiority. Travelers rarely fail to take one or more with them when returning to the United States. In this country, the hammock is an indispensable household adjunct, being used as a hammock by day and as a bed by night. There is no doubt that imported in quantity by some enterprising merchant, the results would be gratifying; the strength, delicacy, and elasticity of its fiber are unrivaled.

The raw material is derived from the leaves and shoots of a palm which is found in some of the coast provinces of Ecuador; this plant, which attains a height of 18 to 24 feet, is known as the "mocora" (*Bactris*) and is very thorny. At 8 or 10 years of age, it matures; its life is indefinite if the shoots are properly cut.

The use of this material for hammocks has an unknown antiquity, doubtless antedating the Spanish conquest; the Inca Indians everywhere weave curious articles out of the fibrous materials afforded by nature; even the savages in the eastern part of Ecuador, who as yet have not been brought in contact with civilization, weave hammocks as fine as silk out of the "Pita" palm.

The manavi hammock, so far as known, was first manufactured in the district of Pajan, Manavi, and is used in every part of the Republic. The favorite sizes are 9 to 12 feet length by 3 to 6 feet width; color of fiber, whitish yellow, like wheat straw, generally stained red in narrow stripes. The fiber is made into stout cords, intertwined every half inch with spiral cross strands; the color scheme is quaint without being gaudy; twelve to twenty-four manila cords are strung into the ends and bound together with the suspending ropes. A good article, if not treated roughly, will endure ten years of constant use.

A stock of hammocks is always on hand in Guayaquil, but as is the case with the jipijapa hat, three or four months' time is required to fill large or special orders. It will not be necessary to import the hammock with ropes and manila cord, as these can be attached in the United States.

The weight of the hammock ranges from 10 to 20 pounds and

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perhaps twelve or more could be rolled into a package of 40 cubic feet.

Retail prices are from 8 to 20 sucres ($3.88 to $9.72) for ordinary and 30 to 50 sucres ($14.58 to $24.30) for the finest; the sucre is now worth 48.6 cents gold. No export duty is exacted.

Parties interested can address the following merchants:

Pedro A. Moreira, Manta, Ecuador.
Paul Gonzenbach, Manta, Ecuador.
M. San Lucas & Co., Jipijapa, Ecuador.
Sucs. de Norverto Osa & Co., Guayaquil.
Sucs. Bunge & Co., Guayaquil.
A. Henriquez, Guayaquil.

PERRY M. DE LEON,
Consul-General.

GUAYAQUIL, *December 26, 1901.*

BANKING AND CACAO INVESTMENTS IN ECUADOR.

BANKS.

I regard the present as an opportune time for any American house interested in South American trade, or for capitalists seeking investment, to establish a bank of issue and discount in Guayaquil.

The profits are tempting, and business can be done on a safe basis, as the records of the Bank of Ecuador show. Established in 1868, it has paid dividends of from 15 to 33 per cent per annum, has a handsome reserve, and its stock sells at 180 to 190.

The current bank rate of discount is 9 per cent per annum, and the difference between buying and selling rate of exchange is 2½ per cent on Europe and the United States.

The rash management of the only other bank of issue in the Republic, the "Comercial and Agricola," it is generally believed, will force liquidation; its stock is virtually unsalable.

The commerce of this city, large for South America, requires at least two banks. An American bank would be a great aid to our trade, and, conducted in accordance with sound business methods, could not fail to be profitable.

CACAO HACIENDAS.

The failure of two of the largest export houses will necessitate the sale of a number of cocoa estates in full bearing and yielding very handsome returns.

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The profits of cacao culture are good.* Parties with capital can doubtless secure valuable properties at reasonable figures.

The advent of Americans of means and standing would be welcomed by the best element in the country.

PERRY M. DE LEON,
GUAYAQUIL, *December 6, 1901.* *Consul-General.*

WHEAT CROP IN URUGUAY.

Both the planting and the growing seasons for the 1901 wheat crop of Uruguay have been excellent, with rains falling just at the right time and the temperature being most propitious. The Republic of Uruguay is the producer of some of the best wheat on the east coast of the Atlantic. In 1898, the exports were 77,231.4 tons, having a value of $2,405,716, to which should be added for flour exported 11,293 tons, of a value of $601,214, the flour going to Brazil and most of the wheat to Europe. In 1898 the crop was an exceptionally good one; the 1899 one was not so good, and that of 1900 was a failure, wheat being imported from Argentina to meet the local demand. In 1899–1900, the area sown was 328,488 hectares,† on which was used as seed 22,241.4 tons of seed wheat, and the crop harvested was 187,553 tons, or over 10 bushels to the acre. A greatly extended area has been put into wheat, and, as the best American agricultural implements are used, a record-making crop is in view. Across the Rio de la Plata, all of the northern end of Argentina is reported as suffering from the long-continued drought, and the probable export of wheat will not exceed 500,000 tons, as given to this office by a statistical authority of that country.

ALBERT W. SWALM,
MONTEVIDEO, *November 11, 1901.* *Consul.*

FRESH-MEAT EXPORTS FROM URUGUAY.

The exports of fresh meat from the River Plata show a steady increase. Nearly two years ago, the export of live stock from the River Plata to Europe was embargoed by reason of the foot and mouth disease, and while the disease has disappeared, the quarantine remains. This has caused a marked development of the refrigerated-beef industry, so that three lines of steamers, including the Royal Mail Packets, have been fitted to carry beef in

* See CONSULAR REPORTS No. 229 (October, 1899).
† 1 hectare=2.471 acres.

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quarters to the English markets. These beef exports, up to October 1, 1901, have amounted to 347,924 quarters, as against 143,859 for the same period in 1900. During the same nine months, 1,930,642 frozen sheep were exported to Europe. The River Plata can easily furnish from 3,000,000 to 4,000,000 quarters of beef for export, and the meat gives excellent satisfaction to dealers in the markets of England and the Continent. The cattle used for the trade cost an average of $23 to $30 gold per head at the killing market. The best sheep for freezing cost an average of $3 per head.

ALBERT W. SWALM,

MONTEVIDEO, *November 11, 1901.* *Consul.*

PROPOSED PERMANENT EXHIBITION IN MEXICO.

The project of establishing a permanent exhibition of foreign and native products in the City of Mexico, which has been under consideration for some time, is likely soon to be an established fact.

A contract has been signed between the Department of Public Improvement, on the part of the Mexican Government, and Mr. José Landero Cos, representing a company, by which a concession is granted to the latter to establish a permanent exhibition as above mentioned. The agreement has already been approved by the lower house of Congress, and it is hoped it will meet the approval of the Senate.

According to this agreement, the buildings for the exhibition shall be finished within three years, and cost not less than $300,000 in Mexican curreney. The concession is for a term of ten years.

The administration of the exhibition will promulgate its rules and regulations, approved by the Government, in Spanish, English, French, Italian, and German. An annual catalogue will also be published in the same languages, containing a descriptive list of all the articles exhibited. Any article to be received for exhibition must be accompanied by a ticket, stating the name of the manufacturer or producer, or his agent, the name of the article, its application, price, and all other necessary data. Enough space in each building shall be reserved for Federal Government exhibits.

In order to assure the success of the exhibition, the Government of the Republic asks the different States of the Federation to obtain articles and data, and such other information as will help to extend commercial relations.

All material necessary for the construction of the buildings, as well as samples of foreign products, will be admitted free of duty,

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under a bond garanteeing that they are for the use of the exhibition only. However, any samples so imported which have not been sold or reexported within one year will be assessed the usual duties, according to the tariff in force at the time of importation.

WILLIAM W. CANADA,
VERACRUZ, *December 18, 1901.* *Consul.*

MEXICAN-CURRENCY FLUCTUATIONS.

There have been great fluctuations in the value of the Mexican silver peso since July last. Bankers and others attribute the cause largely to uncertainty as to the course of our Government in the use of the peso in the Philippines. In July, 1.96 pesos would purchase an American dollar, but it became understood that American money was soon to become the current money of the Philippines, and the value of silver declined until, in November, 1901, it required $2.34 Mexican silver to purchase an American dollar. For a while, it was believed that the peso would sink to its bullion value, but since it became understood that for the time being the peso would be accepted in the Philippines at the rate of $2.10, the value of Mexican money has steadily advanced. I am informed that the fluctuation in value has caused embarrassment to business houses who purchase large quantities of goods in the United States and Europe, as such goods are paid for on a gold basis and sold in Mexico for silver. Many of the leading merchants are hoping for the establishment of the gold basis in Mexico.

PHILIP C. HANNA,
MONTEREY, *January 9, 1902.* *Consul-General.*

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NOTES.

Wheat Crop of New South Wales in 1901.—Under date of December 14, 1901, Consul Baker, of Sydney, transmits the following statistics:

An estimate has recently been made of the wheat crop of New South Wales for the year 1901. Much of the crop has already been harvested, but a considerable part is yet standing in the field. By careful estimate of the government statistician, the crop is stated at 18,769,000 bushels. The area of ground sown in wheat is 1,470,400 acres. This would give an average of 12.8 bushels per acre. The season has been better this year than usual for wheat. There have been some damages by rust from hot winds and through the ravages of hares, rabbits, and grasshoppers; these are supposed to have injured the crop to the extent of 1 bushel per acre. Last year, the total wheat crop averaged 2.2 bushels per acre less than the present year. The total population of New South Wales is reckoned at 1,356,800, so that the wheat crop being distributed would give 13.83 bushels per capita. There were 305,600 acres of wheat sown for hay, estimated to yield 1.1 tons per acre, or 348,406 tons.

Quinine Auction in Batavia.—Under date of Batavia, November 16, 1901, Consul Rairden reports that at the sixteenth public auction sale of quinine, held at the Merchant's Exchange, Batavia, on the 13th instant, the following prices were realized:

Editio II, consisting of 5,846.8 kilograms (12,892 pounds) of sulphate of quinine in 260 lots, each lot containing 22.68 kilograms (49.6 pounds), of which 222 lots were sold for 20 florins ($8.04) per kilogram (2.2046 pounds) and 38 lots were unsold on account of low bids.

Editio II and III, consisting of about 750 kilograms (1,654 pounds) of sulphate of quinine, packing and weight at purchaser's option, in lots of not less than 22.68 and not more than 25 kilograms (49.6 and 55 pounds), of which only one lot was sold at 20.05 florins ($8.06) per kilogram. The remainder was not sold, on account of low bids.

The prices realized have not been at all satisfactory, as the price of 20 florins ($8.04) per kilogram only equals the unit price of 3.1 cents, while at the sale of October 9 the unit price was 3.4 cents.

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Transportation Facilities to Lourenço Marquez.—Under date of December 28, 1901, Consul Hollis, of Lourenço Marquez, reports concerning the lack of transportation facilities between that port and New York. The consul says that importers of American goods and persons ordering goods from New York are subjected to great inconvenience and repeated disappointment, not only because of this lack of direct transportation, but also because steamship lines advertising to carry freight from New York to Lourenço Marquez fail to keep their agreements. He adds:

It was hoped that the Hansa Line, which has recently put on a line of freight steamers from New York to South African ports, would send a steamer here now and then, but we have been disappointed. Tons of cargo must now be lying in New York for this port, waiting for a steamer to sail in a "few weeks or next month."

Cocoon Market of Italy in 1901.—Consul Cuneo sends from Turin, January 15, 1902, the official report of the cocoon market of Italy in 1901. The general results were:

Districts.	Quantity.	Value.
	Metric tons.	
Piedmont	6,017.2	$3,889,954
Lombardy	1,309	717,075
Veneto	1,659.9	930,174
Liguria	20.2	12,748
Emilia	2,226.4	1,297,223
Marches and Umbria	723.4	427,213
Tuscany	1,412.1	864,696
Lazio	28	13,250
South Adriatic	11.5	6,495
South Mediterranean	583.9	320,012
Sicily	8	4,786
Total	13,999.6	8,483,626

The above table shows that the Piedmont district produced nearly half of the Italian product.

Catalogues and Samples for the Azores.—Consul Pickerell reports from St. Michael's, December 10, 1901, that he is requested by Mr. Cæsar d'Oliveira, of that island, to secure for his use catalogues and samples as per following memorandum. This gentleman, adds the consul, has had a number of years' experience as a salesman for continental houses. He desires to hear directly from the houses

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sending catalogues as to prices, discounts, etc. For the present, he expects to pay cash.

MEMORANDUM.

Catalogues.—Paint mills; plows, scythes, hoes, forks, and other light agricultural implements; cornshellers; thrashing machinery and baling presses; tools: carpenter's, blacksmith's, and machinist's; house furnishings: bolts, nuts, locks, and keys; tool boxes for amateurs and boys; electrical apparatus for houses; turbine wheels; stoves; lamp chimneys; office supplies and novelties; novelties for stationery and variety stores; printing machinery, hand and power.

Samples.—Copper wire, plain and covered; leather belting; oils, burning and lubricating; paints: dry and mixed, oil, and brushes; varnishes; paper: wrapping, writing, and printing; ink, printer's; shirtings, cotton and linen, plain and colored; sugar; cements for marine and land construction.

Address, Cæsar d'Oliveira, Ponta Delgada, St. Michael's, Azores.

American Shirt Waists in England.—Consul Marshal Halstead writes from Birmingham, December 12, 1901:

I regret to report an "I told you so" in regard to the sale of American shirt waists (blouses) for ladies in this country. A well-informed man tells me that, as I predicted in a report written eighteen months ago,* the Americans did not take full advantage of their opportunity and have lost the trade. The point is that the extended credit the English shopkeeper must give, and that the jobber must in turn allow the retailer, makes it necessary for the manufacturer to do the stocking and to manage his work for repeat orders; while the American manufacturers have no use for "repeats," and clever American shirt-waist sellers, with attractive novelties, persuaded the jobbers here, so that some of them overstocked. There has been no deterioration in the American qualities of style and novelty and in ability to sell low, but the British manufacturer is making a fairly good imitation article and is considering the needs of jobbers and retailers, which consideration the Americans will not give, my British friend jubilantly tells me.

Irish Demand for Linseed Cake.—Consul Touvelle writes from Belfast, January 23, 1902:

The demand for linseed cake in Belfast is so large that the requirements of the trade can hardly be supplied by local dealers. I have received a request from Messrs. Gregg & Roache, Atlantic Buildings, Waring street, Belfast, Ireland, importers of grain and flour, to have the firm's name brought to the attention of manufacturers

* ADVANCE SHEETS No. 812; CONSULAR REPORTS No. 242.

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of linseed cake in the United States, as the firm is desirous of extending connections in the purchase of that article. For the benefit of exporters, I may mention the fact that two lines of steamers run direct from the United States to Belfast—the Lord Line, from Baltimore and Newport News, and the Head Line, from New Orleans.

Regulating German Trusts.—Under date of December 24, 1901, Consul-General Guenther, of Frankfort, reports that the Central Association of German Merchants and Industrials, at Berlin, has petitioned the "Bundesrath" (Council of the Empire) and the several German State governments to prepare a draft of a law to be presented to the German Parliament, providing that all commercial associations of a monopolistic character, in the form of "cartels," syndicates, rings, trusts, etc. (organized for regulating prices or production, division of territory, or for other purposes), must be registered by law and have their articles of association approved by the respective authorities; also that they must furnish, semiannually, statements of their financial conditions, and of their profits and losses, which shall be published, if not otherwise, at least in the Reichsanzeiger, the official publication of the German Federal Government.

Trade Intelligence Bureau of Norway.—Under date of December 11, 1901, the Department has received from Consul-General Bordewich notice that the Norwegian Government has established a new bureau in the State Department to be called the "Trade Intelligence Bureau of Norway." Translation of a circular is inclosed, which explains the scope of work as follows:

The object of the "Trade Intelligence Bureau of Norway" is to procure from abroad information which may contribute to promote the welfare of Norwegian commerce, navigation, industry, agriculture, the fisheries, and handicraft, and likewise to furnish foreign countries with intelligence which may be of service to Norwegian trade. The bureau, which shall be established at Christiania, shall assist all branches of trade by providing them with detailed particulars as to markets for Norwegian goods, duty, freight, and everything relating to transport and credit, shipping dues and charges, state of and conditions existing at seaports, consular fees, compulsory certificates of origin, making up and methods of packing of wares, etc., and, likewise, as to where and how the various branches of Norwegian trade can obtain their requirements. The bureau shall, until otherwise ordained, forward all reports of general interest to Norwegian trade to all the bourses and guilds throughout the country. Information will, as a rule, be supplied free of charge. Special expenses (except postage), such as those entailed in procuring information respecting credit, analyses, procuring samples, telegrams, etc., shall be repaid to the bureau by the inquirer.

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Rating of Russian Firms.—Under date of December 20, 1901, Consul-General Holloway, of St. Petersburg, says:

One of the greatest hindrances to American business in Russia has been the difficulty in ascertaining the financial standing of firms soliciting credit, as commercial or inquiry agencies are unknown in this country. The usual way of prosecuting such inquiries is through special attorneys, who investigate and report on each case separately, charging according to the time occupied, viz, from 10 to 100 rubles ($5.15 to $51.50). I am now advised that the Bradstreet Company, through its New York or Berlin agency, is prepared to report on the financial standing of Russian business men, corporations, and firms.

Germany enjoys the bulk of Russian foreign business, and gives long credits. The paper is handled by German banks, which are well advised as to the standing of the leading business houses in Russia.

Railroad Accidents in Russia.—Consul-General Holloway reports from St. Petersburg, January 10, 1902:

A recent report of the Minister of Ways of Communications shows that in 1899 there were 4,447 accidents, or an average of a little more than 12 per diem. Of this total, 1,362 were derailments, 750 collisions, and 2,335 of various other descriptions. The derailments resulted in 21 deaths and 172 cases of serious personal injury; the damages incurred by these accidents amounted to 552,862 rubles ($284,724). The collisions were responsible for 19 deaths, 238 cases of serious injury, and damage to the amount of 600,000 rubles ($309,000). Other accidents resulted in the deaths of 1,146 persons and in 2,665 cases of personal injury. Railway accidents unconnected with passenger traffic were responsible for 30 deaths and 3,860 cases of personal injury. Altogether, 1,226 persons were killed and 6,933 injured.

Beet-Sugar Industry of Denmark.—Consul Freeman, of Copenhagen, under date of December 23, 1901, sends the following data relating to the beet-sugar industry of Denmark for the year 1900–1901:

All beet-sugar factories in Denmark are under one management, except that at Nykoping, Falster, which is a cooperative factory; but as it sells all its product to the greater company, the beet-sugar producers of Denmark are united as far as the market is concerned. The acreage under beet-root cultivation during the year was 30,000 acres, producing 398,000 tons of beets, or about 13 tons per acre. The total receipts for the year were 3,271,249 kroner ($876,695), and the bonus to beet growers amounted to $148,606.

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Sugar Production in Nicaragua.—Consul Donaldson, of Managua, under date of December 14, 1901, reports that during the last twelve months Nicaragua has exported over 4,000,000 pounds of cane sugar (not refined). Of this amount, over 3,000,000 pounds were sent to the United States and about 1,000,000 pounds to Vancouver, British Columbia. Nearly all, says the consul, was produced in the Departments of Chinandega and Leon and exported from the port of Corinto. Sugar is also produced in the Departments of Managua, Granada, Rivas, Carazo, and Chontales, but not enough for local consumption. Four years ago, the production of sugar in Nicaragua was less than half the home consumption. Two years ago, the production exceeded the consumption by about 1,000,000 pounds, and since then the production has increased over 300 per cent.

Smokeless Powder and Dynamite in Mexico.—Consul Canada reports from Veracruz, December 18, 1901:

The Mexican Government has granted a concession for a factory to make dynamite and other explosives in the Republic. The price of the products must have the approval of the Government. The concession includes the manufacture of caps, tapers, and quick matches. The company shall also erect a factory for the manufacture of smokeless powder, of a capacity of from 176 to 220 pounds per day. Both plants must be in operation by June 30, 1903. When the company is able to supply the market, there shall be imposed an internal-revenue tax of 21 cents per kilogram (2.2046 pounds) on all explosives imported into or manufactured in the Republic; and the Government further agrees not to reduce the customs duties now in force on explosives. Common black powder may be exempted from the internal tax, provided that its components are sulphur, carbon, and nitrates of potash and soda, and not nitroglycerin, chlorate of potash, or similar substances.

New Electric Railway in Mexico.—Consul-General Hanna, of Monterey, January 14, 1902, says it is understood that an American company has obtained a concession to build and operate an electric street-car line on several of the streets of that city, with extensions to Topo Chico, to the new steel plant, and to the smelters. It is also understood, the consul-general adds, that Mackin & Dillon, of Monterey, are the principal promoters, and that the greater part of the equipment will probably be purchased in the United States.

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American Gas Plant for Monterey, Mexico.—Consul-General Hanna reports from Monterey, January 8, 1902, that an American citizen has obtained a concession for, and will establish, a modern gas plant for lighting and heating the city of Monterey. The cost of the plant when completed, the consul-general is informed, will be $250,000 Mexican (about $125,000 gold), and the equipment, which will be purchased in the United States, will be modern in every respect.

Puerto Cabello Exports.—Consul Ellsworth transmits from Puerto Cabello, January 15, 1902, statement of the principal exports from the consular district of Puerto Cabello during the year ended December 31, 1901, as follows:

Coffee	pounds...	20,417,380
Cocoa	do.....	1,002,721
Copra	do.....	166,072
Cattle	number...	66,299
Hides	pounds...	1,188,658
Skins:		
Deer	do.....	86,313
Goat	do.....	573,776
Timber	do.....	165,800

Venezuelan Duties on Drugs.—Consul Plumacher transmits from Maracaibo, December 19, 1901, translation of an executive decree, dated December 6, 1901, to the effect that all drugs, medicines, and patent chemical products imported through the custom-houses of Venezuela shall pay the duties of the sixth class of the tariff (3 bolivars, or 57.9 cents, per kilogram of 2.2046 pounds). The decree affects articles leaving their port of shipment from December 10, 1901.

New Antwerp-Cuba Steamship Service.—Consul-General Lincoln, of Antwerp, reports, December 21, 1901, that a new direct line of steamers from Antwerp to Cuban ports has been established by the North German Lloyd Steamship Company. This service, the consul-general adds, will be carried out by the steamers *Coblenz*, *Roland*, *Stolberg*, *Trier*, and *Mainz;* the *Coblenz* leaving Antwerp January 20, 1902, and the others following at intervals of two weeks.

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Gold Mine in the Netherlands.—Consul Listoe sends from Rotterdam, January 11, 1902, translation of an article which has lately appeared in several of the Dutch newspapers, as follows:

The provincial government of Overysel has received a request for a concession to develop a mining field in the community of Hellendoorn, Overysel, which has an area of 2,046 hectares (5,056 acres). The petitioners offer, in case of deep mining, to pay the owners of the soil a remuneration of 12.50 florins ($5) per hectare, and in case of surface mining 400 florins ($160) per hectare (2.471 acres).

American Agricultural Machines in Germany.—Consul-General Hughes writes from Coburg, January 3, 1902:

A word of warning to American shippers of agricultural machinery to Germany may not be out of place. Owing to last year's rather poor harvest and the prevalent industrial depression, and to the fact that large stocks of our implements are still on hand and are being sold at lower rates than formerly, it would be well for American agricultural houses which have not their own headquarters in Germany to reduce their shipments to agents, on commission or otherwise.

German Request for Catalogues of Building Material.—Consul-General Guenther, of Frankfort, says that the Social Museum, established by the Society for the Improvement of Workingmen's Dwellings, of which Dr. Phil. Stein, Boersenstrasse 1, that city, is the secretary, desires catalogues and price lists, and samples if possible, of American building material such as plumbers' supplies, sashes, doors, blinds, ironwork, etc. Communications should be addressed to the secretary.

German Tariff on Pipe Bloom.—Consul Langer writes from Solingen, January 14, 1902, that the board of trade has passed a resolution to request the tariff commission not to increase the duty on "pipe bloom, rolled but not wrought," as this is an essential raw material, imported from Sweden, and can not be manufactured in Germany. The present rate of duty is 12½ per cent and the new tariff increases it to about 15 per cent.

German Measures against Tuberculosis.—Consul-General Mason sends from Berlin translation of an explanatory leaflet concerning the prevention and treatment of tubercular disease, issued for popular information by the Imperial Health Office of Germany.

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A copy of this leaflet was transmitted to the Marine-Hospital Service, and has been printed in Public Health Reports, Vol. XVI, No. 48, November 29, 1901.

Plans for Bridge over the Neva.—Consul-General Holloway sends from St. Petersburg, January 22, 1902, plans and specifications for the new palace bridge to be built over the Neva in that city. These are filed in the Bureau of Foreign Commerce, where they can be consulted by architects. Plans, bids, etc., must be submitted by September 1 (14), 1902.

Telegraph Station at Maskat.—Vice-Consul Mackirdy reports from Maskat, December 24, 1901, that the Government of British India has laid a telegraph cable between Maskat and Jask. Jask is situated on the Persian coast, 140 miles northwest of Maskat, and is a station on the main telegraph line between British India and Europe, via Teheran, Persia. The cost of a telegram from Maskat to Washington, D. C., is 3 rupees 7 annas ($1.13) per word.

Homeopathy in Japan.—The Department is advised through Minister Buck, of Tokyo, under date of December 12, 1901, that on July 20, 1899, the Central Sanitary Council resolved not to permit the practice of homeopathy in Japan.

Arbitration between Peru and Bolivia.—Mr. Neill, secretary of legation at Lima, reports, under date of November 27, 1901, that a protocol has been signed at La Paz, Bolivia, for the purpose of submitting to arbitration the pending questions between Peru and that country.

Coal Prices in the Canary Islands.—Consul Berliner writes from Teneriffe, December 14, 1901, that the contract price for coal for the year 1902 is 25s. ($6.08) f. o. b., put in bunkers and trimmed. Vessels having no contracts will have to pay 27s. ($6.75) per ton.

Duty on Tobacco at Gibraltar.—Consul Sprague writes from Gibraltar, January 9, 1902, that by an ordinance of January 8, the duty on tobacco imported into Gibraltar is increased from 1d. to 2d. (2 to 4 cents) per pound. This ordinance affects, in particular, the cheapest kind of tobacco, and also cuttings and leaf tobacco, which are being regularly imported from the United States.

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British Inquiry for Beeswax.—Consul Halstead writes from Birmingham, November 27, 1901, that he has an inquiry for the name of the manufacturer of the "Bee Hive" brand of pure beeswax.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) have been transmitted since the date of the last report to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
Walter Schumann, Mainz.....	Jan. 6, 1902	Mortality of Mainz.....	Marine-Hospital Service.
Do	Jan. 13, 1902	Vital statistics of Mainz...	Do.
Rufus Fleming, Edinburgh..	.....do	Turbine yacht.....	Navy Department.
R. F. Patterson, Calcutta.....	Jan. 1, 1902	Cotton crop of India.....	Department of Agriculture.
Daniel Swiney, Cork.....	Jan. 29, 1902	Irish immigration.....	Bureau of Immigration.
R. S. S. Bergh, Gothenburg..	.....do	Tuberculosis in Gothenburg.	Marine-Hospital Service.
J. F. Monaghan, Chemnitz...	Jan. 14, 1902	German shipping in 1901..	Navy Department.
E. Schneegans, Saigon.....	Dec. 19, 1901	Saigon rice market.....	Department of Agriculture.

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FOREIGN REPORTS AND PUBLICATIONS.

Economic Conditions in Italy.—The Revue du Commerce Extérieur, Paris, January 11, 1902, says:

According to the official statement, the economic situation of Italy is, on the whole, satisfactory. Agricultural methods, with a few exceptions, are improving in all the different departments. The importation of agricultural machinery has almost quadrupled in value in less than ten years, in spite of the development of native manufactories. Fifty factories of chemical fertilizers produce some 450,000,000 pounds, valued at $5,790,000. Italian industry has not, as that of other countries, suffered from depression; one proof of its vitality is the fact that the importation of coal in the last year increased to nearly 5,000,000 tons, notwithstanding the exceptional rise in price—that is, an increase of 1,000,000 tons in four years. The movement to utilize the abundant hydraulic force in Italy merits special attention. In January, 1899, it was estimated that the water power already utilized represented a force of more than 300,000 horsepower. Since then, numerous and very large hydraulic and hydro-electric installations have been made and others are projected—among them, the diverting of the Volturno, which would give 20,000 to 30,000 power for the electric traction between Rome and Naples. Italy may be said to possess the largest installations in Europe for the utilization of hydraulic forces.

The yield of the mines and metallurgical establishments, which in 1897 was valued, respectively, at $12,352,000 and $44,004,000, has increased to $16,405,000 and to $60,795,000, respectively. In chemical industries, the development has been more rapid still; the value of these products in 1897 was $7,141,000; in 1900 their value was figured at $12,156,000. The production of silk textiles is continually increasing. Up to 1890, the imports of silks exceeded the exports; since 1891, the situation has completely changed. In 1894, the excess of imports was 141 metric tons; in 1900, it was 746 metric tons. Great progress has also been made in the manufacture of cotton yarn and textiles; the number of spindles has more than doubled (from 900,000 to 2,000,000) in the last twenty years, while the number of looms has almost quadrupled (13,500 to 60,000). The value of the products has increased from $11,194,000 to $57,900,000. The number of workmen employed has nearly trebled (53,000 to 134,000). During the three years 1895–1897, the average value of machinery imported was in the neighborhood of $7,720,000; in 1900, it was valued at $15,826,000. The manufacture of sugar has taken on extraordinary proportions and already suffices for two-thirds of the national consumption. The amount produced is valued at $3,860,000.

The development of the merchant marine is also notable. In 1896, the movement in the Italian ports was represented by 6,892,000 tons under the national flag and 7,700,000 tons under foreign flags. In 1900, there were 20,000,000 tons under the Italian flag and 8,000,000 only under foreign flags.

Leather Industry in Italy.—According to the Revue du Commerce Extérieur, Paris, December 28, 1901, the leather industry in Italy is making notable progress. In 1899, there were in operation 1 226 tanyards, with a total of 19,921 vats and employing 13,168

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workmen, working on an average 263 days a year. Of these tanyards, 255 use motors, representing a total power of 3,026 dynamos; 1,593 are worked by steam, 1,370 by hydraulic power, and 63 by gas. Comparing these statistics with the figures of 1876, it is shown that the number of establishments has decreased by 90 and the number of workmen has increased by 2,430. The motive power has trebled, having passed from 901 to 2,936. The total value of this industry is not given, but some fifteen years ago it was estimated that Italy consumed 50,000 tons of undressed skins; the production of tanned leather was figured at 20,000 tons, valued at $19,300,000. The glove industry is improving, though still inferior to the figures of 1896, when 500,000 pairs were exported. The average price of gloves exported has, however, been increased from 1.60 lire to 2 lire (30.8 cents to 38.6 cents) on the representation of two important houses of Milan and Florence that their quality (formerly very ordinary) was greatly improved and could now sustain comparison with the French product.

Paper Trade in Constantinople.—According to a recent edition of the Moniteur Officiel du Commerce, of Paris, the paper trade in Constantinople has scarcely changed in the last five years. The imports in 1900 were as follows:

	Metric tons.
Brown wrapping paper	3,813
Ordinary paper	2,810
Letter and other fine papers	548
Paper hangings	50
Music paper	3
Blotting paper	1
Emery paper	12
Pasteboard	1,151

The consumption of printing paper is of considerable importance on account of the great number of papers printed in Constantinople. Paper made from wood pulp is coming into use, and Norway and Sweden furnish the most favorable prices—$6.17 to $6.56 per 220.4 pounds f. o. b. Constantinople. Austria manufactures a superior article, which sells for $6.90 to $7.71 per 220.4 pounds. For transport, the paper is packed into bales of 154 to 165 pounds. The import of letter paper in the inferior and medium qualities is also considerable. There is a growing demand for ruled mercantile paper; also for copy books, blank books, and account books. More than nine-tenths of the total import comes from Austria. Great Britain supplies an excellent quality of gilt-edged paper, made from pure

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rags, which sells for 24 cents a pound. Fancy papers, to meet the foreign demand, are imported from France, England, Italy, and, to a small extent, from Austria and Germany. The trade in school copy books is extraordinarily great. Of the ordinary quality, seven-eighths are manufactured in Constantinople out of Austrian paper. France supplies a finer grade, with ornamental and colored covers.

Envelopes are also an important article of import. Great Britain and France deliver the finest grades, which are not, however, in great demand. Austria may be said to have a monopoly for ordinary paper, but Germany furnishes the common envelopes, which are packed in boxes of 20 packages of 20 envelopes each. The demand for wafers is limited. There is also but little demand for blotting paper, since the use of sand for drying ink is almost invariable with the Turks. Wrapping paper is a very important article of import, and many qualities are handled. One variety, called patent paper, of a yellowish-brown color, is greatly in demand. It is manufactured in Italy and in the Austrian Tyrol. The price is established at $4.63 for 220.4 pounds. A finer quality, in bright colors, often transparent, brings $10.15 to $11.16 per 220.4 pounds. This is of Austrian origin, as well as the very fine paper, striped with colors, used by druggists. Italy furnishes a strong wrapping paper, used in the retail trade; also a heavier paper called "carto-mano," the price of which varies from $5.40 to $5.79. Five hundred sheets, size 22.4 by 32.2 inches, make 220 pounds. A lighter and much better quality of wrapping paper comes from Venice, which costs $11.19 to $11.58 for 220.4 pounds. Paper made from straw formerly came exclusively from France. It is now imported from other countries, especially Italy. The price is $3.86 per 220.4 pounds. Another wrapping paper, called "wapenveld," is imported from Amsterdam and sells for $4.44 per 220.4 pounds. It is yellowish-brown in color, glazed on one side, and, when held up against the light, shows an enormous quantity of small pores. Colored poster paper is sold in great quantities. Bright colors are cheaper than the darker; the price varies from 60 to 80 cents per 220.4 pounds. Austria leads in this import.

White cardboard is used for the manufacture of shoe and hat boxes and for inner and middle soles for cheap shoes, slippers, and light felt foot wear. More than 2,204,600 pounds of pasteboard are imported yearly from Austria. There is no distinction between gray and white pasteboard in price, which is from $4 to $4.26 per 220.4 pounds. Cheap account books are manufactured in Constantinople out of inferior Austrian paper; 95 per cent of these are used in the provinces. They are sold by weight. Germany, France, and Austria furnish a better quality of notebooks.

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Mohair Industry in Australia.—The London Board of Trade Journal, December 5, 1901, has the following notes on the prospects of the mohair industry in Australia:

The advance of this industry in Australia can not be otherwise than gradual, owing to the limited amount of pure stock available; but the extension of the industry will have to be on similar lines to those which have proved so eminently successful in South Africa and the United States, viz, by carefully cross-breeding up flocks from the common goat, of which there are ample supplies available in the various States, and especially so in the case of Queensland. The greater area of Australia can emphatically claim the possession of a "dry" climate, the essential feature to the satisfactory establishment of Angoras. The next factor to determine is whether the class of food at hand will be such as to enable the Angoras to thrive and fatten and grow a good quality of mohair. The order of their food appears to be in inverse ratio to that of sheep, horses, and cattle, as the Angora prefers shrubs, weeds, and other rubbish before grass. They readily adapt themselves to the surrounding conditions; they breed once a year and increase rapidly, the average percentage being reckoned from 80 to 110 per cent. There is no reason why the industry should not go rapidly ahead when once it gets a footing in Australia, as the difficulties of obtaining stock from foreign parts are now reduced to a minimum by the transport facilities which modern ships afford.

French Interests in China.—The Board of Trade Journal, London, December 19, 1901, has particulars relating to French interests in China, which are quoted below:

The following table shows the value of the special trade of France with China during each of the four years 1896–1899:

Year.	Imports from China (for home consumption).	Exports to China (domestic produce).
1896	$15,494,936	$968,434
1897	28,925,227	963,567
1898	26,585,690	851,638
1899	44,158,621	1,060,897

The above figures, taken from the French trade volumes, do not represent the entire value of the commercial movement between France and China. It is difficult to estimate the quantity and value of French merchandise imported into China via Hongkong, and it is also necessary to take into account the important trade of French Indo China with China. In 1900, the imports from China into Indo China were valued at $17,577,798, and the exports from Indo China to China at $14,541,102, of which $10,511,640 was the value of rice exported. The amount of French capital invested in China exceeds $100,000,000, including the Yunnan Railway loan of 1901 of $15,183,480. Foremost among the railways in which French interests are concerned is the Hankau-Pekin line, which has a length of 776 miles, and was conceded to a Franco-Belgian syndicate. The loan contracted for the construction of this railway amounted to $21,899,250, three-fifths of which were contributed by France. The syndicate also obtained the right to work the mines in the neighborhood of the line and to construct branch lines where necessary. A

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subsidiary company has been formed for the working of the mines. In Shansi, the French group of the Russo-Chinese Bank has obtained the concession for constructing a railway 153 miles long, from Tai-Yuen-fu to Ching-ting-fu, serving the Ping-Ting coal basin and joining the Hankau-Pekin line. The concession provides for the extension of the line in a southwesterly direction, thus giving it a total length of from 300 to 370 miles. The French Government has obtained from China an agreement that only a French or a Franco-Chinese company shall have the right of constructing a railway from Pakhoi to a point to be determined on the Si-Kiang, and the concession for a railway connecting a point on the Kwang-Chow Bay with a point on the east coast of the peninsula of Lei-Chow.

Foreign Trade of France in 1901.—The following table from L'Économiste Français shows the share of the principal countries in the foreign trade of France for the first eleven months of 1901, compared with the figures of 1900:

Country.	Imports.		Exports.	
	1901.	1900.	1901.	1900.
Great Britain	$116,840,000	$116,624,600	$222,749,000	$214,235,700
United States	83,293,500	85,703,000	42,557,600	45,425,600
Germany	71,909,400	73,611,000	81,362,000	80,061,800
Belgium	68,289,000	75,090,000	105,049,700	106,100,000
Argentina	65,665,500	54,648,000	9,050,000	8,734,000
Russia	39,762,800	39,528,000	8,101,700	6,932,000
Spain	28,754,000	38,468,700	22,336,500	24,567,000
Italy	26,973,000	26,347,500	29,093,700	27,431,800
Turkey	17,974,000	19,359,600	8,876,000	8,648,700
Switzerland	18,151,000	18,490,000	39,619,600	36,744,800
Austria-Hungary	15,295,800	15,354,800	3,665,800	2,963,500
Brazil	12,595,500	13,660,900	5,660,000	6,386,000

Foreign Trade of Bulgaria in 1901.—The Nachrichten für Handel und Industrie, Berlin, January 10, 1902, gives the following statistics of the foreign trade of Bulgaria for the first eleven months of 1901. The total imports were valued at $13,723,555 and the exports at $14,437,672. The commerce of Bulgaria with the principal countries was distributed as follows:

Country.	Imports.	Exports.
Great Britain	$1,117,470	$1,679,100
Turkey	907,100	1,186,950
Germany	874,290	669,713
Austria-Hungary	814,460	281,780
Italy	241,250	324,240
France	137,030	.....
Belgium	.....	787,440

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The increase of imports over 1900 is shown principally in the following articles:

Article.	Value.	Article.	Value.
Textile goods	$2,132,650	Metal and metal goods	$169,840
Leather and leather goods	387,930	Chemical products	133,170
Machinery and instruments	330,030	Vegetables	88,780
Railway cars, wagons, boats	312,660	Paper goods	86,850
Oils, fats, and wax	291,430		

The most notable values of the export list were:

Article.	Value.	Article.	Value.
Corn	$2,875,700	Animals	$391,790
Wheat	496,010	Raw tobacco	146,680
Oats	341,610	Building wood	59,830
Eggs	374,420		

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PUBLICATIONS OF THE BUREAU OF FOREIGN COMMERCE.*

The publications of the Bureau of Foreign Commerce, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from diplomatic and consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued daily, except Sundays and legal holidays, for the convenience of the newspaper press, commercial and manufacturing organizations, etc.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months. There is also issued an annual edition of Declared Exports, embracing the returns for the fiscal year.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883; Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885–86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs in Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

In 1890, the Department decided to publish reports on special subjects in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1890 and 1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet-Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries. (New edition, 1897.)

Vol. 4 (1891).—Port Regulations in Foreign Countries.

Vol. 5 (1891).—Canals and Irrigation in Foreign Countries. (New edition, 1898.)

Vol. 6 (1891 and 1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

* Formerly Bureau of Statistics. Name changed to Bureau of Foreign Commerce by order of the Secretary of State, July 1, 1897.

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Vol. 9 (1892 and 1893).—Australian Sheep and Wool and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour. (New edition, 1897.)

Vol. 11 (1894).—American Lumber in Foreign Markets. (New edition, 1897.)

Vol. 12 (1895).—Highways of Commerce. (New edition, 1899.)

Vol. 13 (1896 and 1897).—Money and Prices in Foreign Countries.

Vol. 14 (1898).—The Drug Trade in Foreign Countries.

Vol. 15 (1898).—Part I. Soap Trade in Foreign Countries; Screws, Nuts, and Bolts in Foreign Countries; Argols in Europe, Rabbits and Rabbit Furs in Europe, and Cultivation of Ramie in Foreign Countries. Part II. Sericulture and Silk Reeling and Cultivation of the English Walnut.

Vol. 16 (1899).—Tariffs of Foreign Countries. Part I. Europe. Part II. America. Part III. Asia, Africa, Australasia, and Polynesia. Supplement (1900). Tariffs of Chile and Nicaragua.

Vol. 17 (1899).—Disposal of Sewage and Garbage in Foreign Countries; Foreign Trade in Coal Tar and By-Products.

Vol. 18 (1900).—Merchant Marine of Foreign Countries.

Vol. 19 (1900).—Paper in Foreign Countries; Uses of Wood Pulp.

Vol. 20 (1900).—Part I. Book Cloth in Foreign Countries, Market for Ready-Made Clothing in Latin America, Foreign Imports of American Tobacco, and Cigar and Cigarette Industry in Latin America. Part II. School Gardens in Europe. Part III. The Stave Trade in Foreign Countries.

Vol. 21 (1900).—Part I. Foreign Markets for American Coal. Part II. Vehicle Industry in Europe. Part III. Trusts and Trade Combinations in Europe.

Vol. 22 (1900 and 1901).—Part I. Acetic Acid in Foreign Countries. Part II. Mineral-Water Industry. Part III. Foreign Trade in Heating and Cooking Stoves.

Vol. 23 (1901).—Part I. Gas and Oil Engines in Foreign Countries.

Of these SPECIAL CONSULAR REPORTS, Australian Sheep and Wool, Cotton Textiles in Foreign Countries, Files in Spanish America, Fire and Building Regulations, Fruit Culture, Gas in Foreign Countries, India Rubber, Lead and Zinc Mining, Malt and Beer in Spanish America, Port Regulations, Refrigerators and Food Preservation; Sericulture, etc.; Vagrancy, etc., are exhausted, and no copies can be supplied by the Department.

There was also published, in 1899, Proclamations and Decrees during the War with Spain, comprising neutrality circulars issued by foreign countries, proclamations by the President, orders of the War and Navy Departments, and war decrees of Spain.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, Porto Rico, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Foreign Commerce, Department of State, Washington, U. S. A."

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VALUES OF FOREIGN COINS AND CURRENCIES.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

The fact that the market exchange value of foreign coins differs in many instances from that given by the United States Treasury has been repeatedly called to the attention of the Bureau of Foreign Commerce. An explanation of the basis of the quarterly valuations was asked from the United States Director of the Mint, and under date of February 7, 1898, Mr. R. E. Preston made the following statement:

"When a country has the single gold standard, the value of its standard coins is estimated to be that of the number of grains fine of gold in them, 480 grains being reckoned equivalent to $20.67 in United States gold, and a smaller number of grains in proportion. When a country has the double standard, but keeps its full legal-tender silver coins at par with gold, the coins of both gold and silver are calculated on the basis of the gold value.

"The value of the standard coins of countries with the single silver standard is calculated to be that of the average market value of the pure metal they contained during the three months preceding the date of the proclamation of their value in United States gold by the Secretary of the Treasury. The value of the gold coins of silver-standard countries is calculated at that of the pure gold they contain, just as if they had the single gold standard.

"These valuations are used in estimating the values of all foreign merchandise exported to the United States."

The following statements, running from January 1, 1874, to January 1, 1902, have been prepared to assist in computing the values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1896, and in the quarterly valuations thereafter.

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To meet typographical requirements, the quotations for the years 1875–1877, 1879–1882, 1884–1887, 1895, and 1897 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

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A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange."

Countries.	Standard.	Monetary unit.	Value in U.S. gold.	Coins.
Argentine Republic..	Gold and silver..	Peso.....	$0.96,5	Gold—argentine ($4.82,4) and ½ argentine; silver—peso and divisions.
Austria-Hungary*.....	Gold	Crown.....	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium.....	Gold and silver..	Franc	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil	Gold	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	.....do	Dollar.....	1.00	
British Honduras.....	.....do	.....do	1.00	
Chile.....	.....do	Peso.....	.36,5	Gold—escudo ($1.25), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Costa Rica.....	.....do	Colon.....	.46,5	Gold—2, 5, 10, and 20 colons; silver—5, 10, 25, and 50 centisimos.
Cuba	Gold and silver..	Peso.....	.92,6	Gold—doubloon ($5.01,7); silver—peso (60 cents).
Denmark	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Ecuador†	.....do	Sucre.....	.48,7	Gold—10 sucres ($4.8665); silver—sucre and divisions.
Egypt.....	.....do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland	.....do	Mark.....	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver..	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark.....	.23,8	Gold—5, 10, and 20 marks.
Great Britain.....	.....do	Pound sterling..	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece	Gold and silver..	Drachma	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	.....do	Gourde.....	.96,5	Silver—gourde.
India‡.....	Gold	Rupee	.32,4	Gold—sovereign ($4.8665); silver—rupee and divisions.
Italy	Gold and silver..	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Japan §.....	Gold	Yen	.49,8	Gold—1, 2, 5, 10, and 20 yen.
Liberia	.....do	Dollar.....	1.00	
Netherlands.....	Gold and silver..	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar.....	1.01,4	Gold—$2 ($2.02,7).
Peru‖.....	.....do	Sol	.48,7	Gold—libra ($4.8665); silver—sol and divisions.
Portugal	.....do	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Russia ¶.....	.....do	Ruble	.51,5	Gold—imperial ($7.718) and ½ imperial ($3.80); silver—¼, ½, and 1 ruble.
Spain.....	Gold and silver..	Peseta.....	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway.	Gold	Crown.....	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver..	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Uruguay	.....do	Peso.....	1.03,4	Gold—peso; silver—peso and divisions.
Venezuela.....	Gold and silver..	Bolivar.....	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

*The gold standard went into effect January 1, 1900 (see Commercial Relations, 1899, Vol. II, p. 7). Values are still sometimes expressed in the florin, which is worth 2 crowns.

† Gold standard adopted in November, 1900. (See CONSULAR REPORTS No. 225, June, 1899.)

‡ For an account of the adoption of the gold standard, see CONSULAR REPORTS No. 238, p. 359.

§ Gold standard adopted October 1, 1897. (See CONSULAR REPORTS No. 201, p. 259.)

‖ Gold standard adopted October 13, 1900.

¶ For an account of the adoption of the gold standard, see Review of the World's Commerce, 1896-97, p. 254.

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B.—*Countries with fluctuating currencies, 1874–1898.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1878.	1883.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.40,1	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.81,2	.69,9	.68	.85
Central America	do	Peso	.96,5	.91,8	.....	.69,9	.68	.85
China	do	Haikwan tael	1.61	.....	.....	.....	.....	.....
Colombia	do	Peso	.96,5	.96,5	.81,2	.69,9	.68	.85
Ecuador	do	do	.96,5	.91,8	.81,2	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	.....	4.97,4	4.90	4.94,3	.....	.....
India	Silver	Rupee	.45,8	.43,6	.38,6	.32,2	.32,3	.40,4
Japan	Gold	Yen	.99,7	.99,7	.....	.99,7	.99,7	.99,7
	Silver		.....	.....	.87,6	.75,3	.73,4	.91,7
Mexico	do	Dollar	1.04,7½	.99,8	.88,2	.75,9	.73,9	.92,3
Netherlands‡	Gold and Silver.	Florin	.40,5	.38,5	.....	.....	.....	.....
Peru	Silver	Sol	.92,5	.91,8	.81,2	.69,9	.68	.85
Russia	do	Ruble	.77,17	.73,4	.65	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.73,3	.63	.61,4	.76,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1891.	1892.	1893.	1894.	1896.	1898.
Austria-Hungary*.	Silver	Florin	$0.38,1	$0.34,1	.....	.....	.....	.....
Bolivia	do	Boliviano	.77,1	.69,1	$0.61,3	$0.51,6	$0.49,1	$0.42,4
Central America	do	Peso	.77,1	.69,1	.61,3	.51,6	.49,1	.41,4
Colombia	do	do	.77,1	.69,1	.61,3	.51,6	.49,1	.42,4
Ecuador	do	do	.77,1	.69,1	.61,3	.51,6	.49,1	.42,4
India	do	Rupee	.36,6	.32,8	.29,2	.24,5	.23,3	.20,1
Japan§	do	Yen	.83,1	.74,5	.66,1	.55,6	.52,9	.....
Mexico	do	Dollar	.83,7	.75	.66,6	.56	.53,3	.46
Peru	do	Sol	.77,1	.69,1	.61,3	.51,6	.49,1	.42,4
Russia§	do	Ruble	.61,7	.55,3	.49,1	.41,3	.39,3	.....
Tripoli	do	Mahbub of 20 piasters.	.69,5	.62,3	.55,3	.46,5	.44,3	.....

*The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (see CONSULAR REPORTS No. 147, p. 623) established the gold standard.

†The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

§See footnote, table of fixed currencies.

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C.—*Quarterly valuations of fluctuating currencies.*

Countries.	Monetary unit.	1899.				1900.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.43,9	$0.43,4	$0.44,3	$0.43,6	$0.42,7	$0.43,6	$0.43,8	$0.45,1
Central America.	Silver peso	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6	.43,8	.45,1
China	Amoy tael	.71	.70,2	.71,6	.70,5	.69,1	.70,5	.70,9	.72,9
	Canton tael	.70,8	.70	.71,4	.70,3	.68,9	.70,3	.70,7	.72,7
	Chefoo tael	.67,9	.67,2	.68,4	.67,4	.66,1	.67,4	.67,8	.69,7
	Chinkiang tael	.69,3	.68,6	.69,9	.68,9	.67,5	.68,8	.69,3	.71,2
	Fuchau tael	.65,6	.65	.66,2	.65,2	.64	.65,2	.65,6	.67,4
	Haikwan tael	.72,2	.71,4	.72,8	.71,8	.70,3	.71,7	.72,1	.74,2
	Hankau tael	.66,4	.65,7	.67	.66	.64,7	.65,9	.66,3	.68,2
	Hongkong tael	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
	Ningpo tael	.68,2	.67,5	.68,8	.67,8	.66,5	.67,7	.68,2	.70,1
	Niuchwang tael.	.66,5	.65,9	.67,1	.66,1	.64,8	.66,1	.66,5	.68,4
	Shanghai tael	.64,8	.64,1	.65,4	.64,4	.63,1	.64,4	.64,8	.66,6
	Swatow tael	.65,5	.64,9	.66,1	.65,1	.63,9	.65,1	.65,5	.67,4
	Takao tael	.71,4	.70,7	.72	.71	.69,6	.70,9	.71,4	.73,4
	Tientsin tael	.68,8	.68	.69,4	.68,3	.67	.68,3	.68,7	.70,7
Colombia	Silver peso	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6	.43,8	.45,1
Ecuador †	do	.43,9	.43,4	.44,3	.43,6				
India	Silver rupee‡	.20,8	.20,6	.21	.20,7	.20,3	.20,7	.20,8	
Mexico	Silver dollar	.47,7	.47,2	.48,1	.47,4	.46,4	.47,3	.47,6	.49
Persia	Silver kran	.08,1	.08	.08,2	.08	.07,9	.08	.08,1	.08,3
Peru †	Silver sol	.43,9	.43,4	.44,3	.43,6	.42,7	.43,6	.43,8	.48,7

Countries.	Monetary unit.	1901.				1902.
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.
Bolivia	Silver boliviano.	$0.46,8	$0.45,1	$0.43,6	$0.42,8	$0.41,3
Central America	Silver peso	.46,5	.45,1	.43,6	.42,8	.41,3
China	Amoy tael	.75,7	.72,9	.70,5	.69,1	.66,9
	Canton tael	.75,5	.72,7	.70,3	.68,9	.66,7
	Chefoo tael	.72,4	.69,7	.67,4	.66,1	.63,9
	Chinkiang tael	.74	.71,2	.68,8	.67,5	.65,3
	Fuchau tael	.70,1	.67,5	.65,2	.64	.61,8
	Haikwan tael	.77,1	.74,2	.71,7	.70,4	.68
	Hankau tael	.70,9	.68,2	.65,9	.64,7	.62,6
	Hongkong tael	(*)	(*)	(*)	(*)	(*)
	Ningpo tael	.72,8	.70,1	.67,8	.66,5	.64,3
	Niuchwang tael	.71	.68,4	.66,1	.64,8	.62,7
	Shanghai tael	.69,2	.66,6	.64,4	.63,2	.61,1
	Swatow tael	.70	.67,4	.65,1	.63,9	.61,8
	Takao tael	.76,2	.73,4	.70,9	.69,6	.67,3
	Tientsin tael	.73,4	.70,7	.68,3	.67	.64,8
Colombia	Silver peso	.46,8	.45,1	.43,6	.42,8	.41,3
Mexico	Silver dollar	.50,9	.49	.49	.46,4	.44,9
Persia	Silver kran	.08,6	.08,3	.08,3	.07,9	.07,6

*The "British dollar" has the same legal value as the Mexican dollar in Hongkong, the Straits Settlements, and Labuan.

†See footnote, table of fixed currencies.

‡The sovereign is the standard coin of India, but the rupee is the money of account. See also table of fixed currencies.

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FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalents.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovets	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do*	Japan	1.31 pounds.
Do	Java, Siam, and Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chetvert	Russia	5.7748 bushels.
Chih	China	14 inches.

*More frequently called "kin." Among merchants in the treaty ports it equals 1.33⅓ pounds avoirdupois.

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Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Frasila	Zanzibar	35 pounds.
Fuder	Luxemburg	264.17 gallons.
Funt	Russia	0.9028 pound.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	....do	2.471 acres.
Hectoliter:		
Dry	....do	2.838 bushels.
Liquid	....do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	6 feet.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	....do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Koku	Japan	4.9629 bushels.
Korree	Russia	3.5 bushels.
Kwan	Japan	8.28 pounds.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	113¼ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Spain	1.0144 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.

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Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅘ acres.
Do	Nicaragua and Salvador	1.727 acres.
Marc	Bolivia	0.507 pound.
Maund	India	82⅔ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Milla	Nicaragua and Honduras	1.1493 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.82838 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands	137.9 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Spain	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile,* Chile, Mexico, and Peru	101.41 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¾ pounds.
Sagene	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	0.02451 acres.
Seer	India	1 pound 13 ounces.
Shaku	Japan	11.9305 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Sun	Japan	1.193 inches.
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.

*Although the metric weights are used officially in Spain, the Castile quintal is employed in commerce in the Peninsula and colonies, save in Catalonia; the Catalan quintal equals 91.71 pounds.

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Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	Sweden	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Central America	32.87 inches.
Do	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Spain	0.914117 yard.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.0 pounds.

Metric dry measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (1,000 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.

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Meter equals 39.37 inches.
Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acre.

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CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

Vol. LXVIII. APRIL, 1902. No. 259.

OUR FOREIGN COMMERCE IN 1901.*

The commercial reports of diplomatic and consular officers for the calendar year 1901 record continued growth in the sales of many lines of manufactures from the United States in foreign markets and the increase of the general concern in Europe as to the possible results of our industrial competition. Although the figures of our exports compiled by the Treasury Department show a considerable falling off in the total value of manufactured goods sent abroad, there seems to be a steady and uninterrupted spread in the popularity of what may be termed American novelties all over Europe. By the word "novelties" are meant not only labor-saving implements and machinery to which most Europeans were strangers, but a great variety of articles of merchandise, such as boots and shoes, leather goods, hats and clothing, rubber goods, furniture and household utensils, hardware and cutlery, canned goods, glassware, clocks and watches, scientific apparatus, electrical supplies, and cotton, silk, and woolen textiles—all of which possess distinguishing points of excellence and relative cheapness, new to Europe, which commend them to purchasers there in preference to similar articles of home manufacture. In other words, while the aggregate of our exports of manufactured goods has shrunk, the variety of our sales in Europe is

*Extract from the Review of the World's Commerce, introductory to Commercial Relations of the United States, 1901 (in press). The Review is also printed as a separate pamphlet. Applications for it, as also for the two bound volumes Commercial Relations, should be addressed to the Chief of the Bureau of Foreign Commerce, Department of State, Washington, U. S. A.

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being extended and the territory upon which they are encroaching is being steadily enlarged.

ADVANCES IN AUSTRIA-HUNGARY.

A striking example of this is seen in the case of Austria-Hungary, the country in which originated the idea of a European combination against American goods and where the hostility of the industrial forces continues to be most pronounced. Notwithstanding this, the imports from the United States, according to Consul-General Hurst, of Vienna,* are increasing rapidly, although American exporters have not until recently given general attention to that part of Europe, "which is considerably removed 'from ports in closest touch with trans-Atlantic commerce." So formidable is the growth of American imports, in fact, that "Austrian manufacturers and agriculturists are making an organized effort to stem the inflow." At a recent conference in Vienna to take measures against American competition, adds Mr. Hurst, "it was openly acknowledged that the commercial policy of the present time is dictated and controlled by the United States. * * * Instances of the gigantic strides of our American manufacturing industries are cited to show our capability to forge ahead of all competitors in many fields."

STILL LEADING IN GERMANY.

In a report upon the commerce and industries of Germany,† Consul-General Mason, of Berlin, says the United States again heads the list of countries selling to that country, with a total of nearly $243,000,000, or 16.9 per cent of the entire bulk of German imports, although it should be noted that this covers the values of all American products landed on German soil, "a large percentage of which simply pass through * * * en route to Russia, Austria-Hungary, Switzerland, and Scandinavia." It may be expected that later returns will show a falling off in German imports, owing to the recent industrial depression which has seriously impaired the purchasing power of the Empire. But in Germany, as in Austria-Hungary, our goods continue to hold their own, and the "overshadowing competition of the United States" is regarded by German economists as of grave importance to the future of German industry and commerce. "It is recognized by intelligent Germans," adds Mr. Mason, "that in future industrial and trade competitions, that fine composite product of American racial qualities, institutions, and methods, the workingman who thinks, will, in combination with our unequaled resources, turn the scale in favor of the United States."

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* See ADVANCE SHEETS OF CONSULAR REPORTS, No. 1193 (November 19, 1901).
† Printed in ADVANCE SHEETS OF CONSULAR REPORTS, No. 1185 (November 9, 1901).

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SUPPLYING EUROPE WITH GOODS WE USED TO IMPORT.

The same concern is felt in France, in Belgium, in Switzerland, in Great Britain—in other words, in all of the highly developed manufacturing countries of Europe—and it is a most significant fact that even in specialties which were once thought to be exclusively their own, the United States is becoming a more and more formidable competitor. Who would have imagined a few years ago that we would make such rapid progress in the manufacture of silk that we would soon cease buying silks from France, with the exception of highly finished goods, and would actually be exporting silks to that country? Yet this is what has happened. So of tin plate in Wales. At one time it was doubtful whether we could manufacture tin plate profitably, and it was confidently asserted that the Welsh must always control the American trade. But we now manufacture all the tin plate we need, and the Welsh have recently imported tin bars from us.

There are, indeed, surprisingly few of the articles which used to be obtained exclusively abroad that are not now produced in the United States. The woolen as well as the silk industry of France and the hosiery industry of Germany are said to be suffering severely from our competition, and the Bohemian glass industry is feeling the effect of the increase of glass manufacture in the United States. Our cottons are steadily gaining in taste and finish, and are now sold in England in competition with the Manchester product. Says the Leipziger Tageblatt of April 10, 1901: "Even in fancy articles, in which the European market has set the styles for the entire world, the American manufacturers are beginning to compete with the European. British calico prints are also already receiving competition from America. As we hear, travelers of a well-known American house have offered American cotton stuffs in England with much success, and the London authorities declare them to be tasteful and worth their price." A New York company manufacturing cotton stuffs intends to found a Paris house which shall introduce its fancy woven stuffs for women's dresses, and women's trimmed hats are being exported from the United States to Europe. "The reversible cloths which are made in the United States," said Consul Sawter, of Glauchau, in a report sent in 1900, "are now the style in high-priced goods in the German capital." In agriculture, as in manufactures, we are constantly widening the sphere of our production. The orange and lemon growers of southern Europe are feeling the effect of California's competition. "It is ridiculous," says a Spanish newspaper,* "to think that fruits and vegetables raised on the slopes of the distant Pacific should compete at the very doors of Spain with

*Advance Sheets No. 1043.

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those produced in this country. * * * Shall we live to see American oranges on the Valencia market itself?" We are producing our own raisins, our prunes, our wines, our olive oil, and are sending them abroad. California prunes now compete in Europe with Bosnian prunes, once a staple export to New York.

In the busy manufacturing district of Liege, Belgium, according to the annual report of Consul Winslow, more American goods are consumed than ever before, in spite of business depression. Our sales in general, says Mr. Winslow, have doubled in the past three years, and it is now common to see articles marked "Americaine" in the shop windows. Spanish journals complain that steel rails are imported from the United States, notwithstanding the production of iron is one of the important industries of Spain. Vice-Consul Wood, of Madrid, says our goods are to be seen everywhere, and include such American specialties as hair-clipping machines, dental supplies, typewriters, electric motors, etc.

DECLINE IN EXPORTS OF MANUFACTURES.

The people of Europe, it may be assumed, therefore, are not less but more favorably inclined to goods of American origin, and the falling off in our exports, so far as they are concerned, is to be attributed to temporary causes, such as business depression, reducing their purchasing power, with the natural result of falling prices, or to discrimination against our products. The reduction is also found to be due, in part, to the elimination of the Hawaiian Islands and Porto Rico from the Treasury tables of exports to foreign countries, and to trade conditions in the United States, such as those affecting the exports of copper, which have checked the outflow of manufactured goods.

The Treasury statement of imports and exports of the United States for the calendar year 1901 (subject to revision) shows that the total imports amounted to $880,421,056, an increase of $51,271,342 over the year 1900; and that the total exports were $1,465,380,919, a falling off of $12,565,194 compared with the previous year. The exports of manufactures amounted to $395,144,030, against $441,406,942 during the same period of 1900—a falling off of $46,262,912. The percentage of manufactures in the total of exports declined from 30.38 in 1900 to 27.48 in 1901. On the other hand, the exports of agricultural products rose in value from $904,655,411 in 1900 to $940,246,488 in 1901—a gain of $35,591,077, thus largely offsetting the loss in manufactures. The percentage increased from 62.26 to 65.38. The decline in the exports of copper, not including ore, amounted to $24,007,711; and in manufactures of iron and steel, to $27,093,683.

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HAS EXPANSION BEEN CHECKED?

Notwithstanding the continued spread of our goods in Europe, and the deductions to be made from the Treasury figures on the score of accidental or natural causes of decline in manufactured exports, it is evident that the "American invasion" of Europe has ceased, for the time being, to be of the sweeping character that distinguished it at first as an economic phenomenon. Our advantages in industrial competition in the abundance and cheapness of raw material and fuel, in the superior efficiency of our skilled labor, in the unexampled fecundity of our people in the invention of labor-saving machinery, and the advances we are constantly making in economies of production are still the subject of much anxious speculation in the great industrial centers of Europe; but there are some foreign observers who are encouraged by recent developments to hope that conditions may be more nearly equalized by the substitution of new processes and improved machinery modeled on our own and the adoption of legislative measures aimed especially at our goods. It was pointed out in the Review of the World's Commerce a year ago* that, in the reports of the consular officers for 1900, there ran "along with a common note of satisfaction, a warning, here and there, of a more strenuous competition, which, in the end, may counterbalance our superior advantages to a considerable extent and check our progress in the world's markets, unless we equip ourselves in the meantime for the ultimate phases of the struggle." As yet, it can not be said that Europe has made any sensible progress, in actual performance, toward more strenuous competition. The measures adopted thus far are almost wholly tentative or preparatory, and it may be that those which involve restrictive legislation will be abandoned if the United States should consent to modify its tariff policy and permit the importation of a larger volume of European goods in return for similar concessions.

AN ENGLISH VIEW OF AMERICAN COMPETITION.

Upon the other hand, the decline in our exports of manufactures is taken in some quarters to indicate a subsidence in the aggressiveness and force of our competition. The London Times of January 7, 1902, in a careful review of our material progress in 1901, inclines to the view that we may have reached "the top of the wave of commercial prosperity" and that the danger apprehended from the United States of "aggressive economic interference with other countries" is not so serious as it was generally thought to be in the earlier stages of our expansion. Great as has been the real commercial

*Review of the World's Commerce for 1900, page 21.

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and industrial success of the United States during the last two or three years, says the Times, "we are convinced that it is insufficient to warrant the view of its economic results taken either by sanguine Americans or by timid Europeans. The United States are not, as many Americans and some foreigners seem to imagine, exempt from the laws of nature. There are people who are so fascinated by great relative magnitude that they are unable to distinguish between it and infinity. Their judgment becomes, so to speak, polarized by the too intense contemplation of great but variable economic forces, just as a compass needle is disturbed by the proximity of a relatively large mass of iron, and their minds become incapable of receiving impressions from evidence that the really permanent economic forces are not dead or even sleeping. Now, there have been several pieces of evidence during the past year that the economic situation in the United States is not altogether so good as it appears to those who merely look at and discuss the surface, whether from habit or because they have reasons for not wishing the public to look any deeper." In support of its assertions, the Times endeavors to show that the continued expansion of traffic receipts of American railroads loses much of its apparent significance when the fact is considered that it is not a new thing, but "had been going on for a long time before the end of 1900;" that the sanguine prediction that, in a very few years, New York would be the monetary center of the world, based upon the theory that the United States was becoming a creditor instead of a debtor nation and was lending money to Europe instead of borrowing, is not being realized; that "America has gone, for the time being, quite as far in the direction of employing her resources and credit as is safe, and possibly a little farther;" and that "the American public has never recovered from the fright it got in May last, in spite of every endeavor on the part of the leaders of the business world to allay the apprehension created by the panic, and to encourage a belief in the strength of the bond which 'community of interest' was supposed to have established among the able and ambitious men who govern the great business corporations of the United States."

OUR INDUSTRIAL EFFICIENCY UNDIMINISHED.

Whatever be the force of these conclusions, they do not necessarily detract from the efficiency of the United States as a competitive force in the world's markets, for they do not in any way affect the advantages peculiar to us as an industrial nation, and if they did, they would be offset by drawbacks such as insufficient supplies of raw material and fuel under which the other manufacturing countries must, in the very nature of things, continue to labor. Moreover, it will probably be a long time before the conservative, slow-moving

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industrial forces of Europe will adapt themselves to the novel requirements which American ingenuity and enterprise have created. Both labor and capital in Europe would seem to have a long and difficult task ahead of them before they shall have approximated to the economies of production which we have mastered.

ALLEGED OBSTRUCTION BY BRITISH LABOR.

The labor conditions in Great Britain especially appear to be such as to seriously embarrass progress there and to give us a broader margin of opportunity in more quickly and more economically meeting the demands of foreign consumers. In a series of articles entitled "The Crisis in British Industry," a writer in the London Times asserts that the English trades unions have so hedged about the productive forces of the Kingdom as to greatly diminish output and delay the execution of work. "Thirty years ago, our correspondent states, and we believe accurately," says the Times editorially, "a bricklayer would lay 1,000 or 1,200 bricks in a day. In America, we are given to understand, the figure is even higher. Now, by an unwritten but mercilessly enforced trade-union law, a man must not lay more than 400, and if he works for the London County Council—that is to say, for the ratepayers—he must not lay more than 330. Our correspondent quotes a case of a building put up for the school board in which the average output of the bricklayers was 70 bricks a day. Yet these are men receiving the highest current rate of wages, a rate very greatly in excess of what was paid when 1,000 bricks were laid per day. This is typical of what goes on in every trade, though it may not always be so easy to give exact figures."

The United States consul at Liverpool, Mr. Boyle, in his annual report for 1901,* gives a most interesting description of the lengths to which this restrictive policy is carried. "The charge is made," he says, "that there is a general disposition on the part of British workingmen to obstruct as much as possible the use of labor-saving machinery, and to limit its output whenever the employers add machinery to their plant; and also that, in certain trades, the rule is 'one man, one machine,' whereas in America one man will attend to two or three machines. It is furthermore charged that there is an increasing disposition on the part of British workingmen to shirk work, and to use all expedients to perform as little labor as possible during the hours for which they are paid. These charges are made with great particularity against trades-unionists. There is, it is to be noted, a growing tendency throughout the country to shorten the hours of labor, while at the same time there is an upward movement in wages. As a rule, trades-unionists deny the charge of

*See ADVANCE SHEETS OF CONSULAR REPORTS, No. 1222 (December 24, 1901).

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obstructing the use of labor-saving machinery and limiting the output; and they retort that employers are lacking in enterprise in not fitting up their factories with up-to-date plants. It is undoubtedly true, however, that, speaking generally and quite apart from the question of trades-unionism, English manufacturers find it almost impossible to get the same amount of product from machines as is obtained in America. There are two reasons that account for this, independent of any agreement, expressed or implied, on the part of trades-unionists to limit the output. The first reason is that, as a rule, the British workman is not as adaptable as the American workman—he does not so readily get command of new appliances as the American workman; and the second is that it is not the custom of the country for an Englishman, whether mechanic, clerk, or laborer, to work as hard as an American." In Consul Boyle's opinion, "trades-unionism has an influence in England far beyond what it has in the United States;" but he adds: "It is but just to say that there is greater need of trades unions in this country than in America. Undoubtedly, English trades unions have brought about great reforms in the condition of factories, as to the hours of labor, in regard to the employment of children, etc.; and there are indications that the alleged restrictive policy of trades unions, express or implied, is gradually being modified."

AMERICAN WORKINGMEN PROMOTING EXPANSION.

Whatever be the merits of the points at issue between employers and organized labor, it is evident that the existing conditions are not only unfavorable to the increase of Great Britain's competitive energy, but actually handicap her in the effort to adapt herself to the industrial exigencies which we have created. The advantage we enjoy in this particular is rendered all the more formidable from what seems to be a growing tendency in the United States toward a more harmonious cooperation between labor and capital, as was strikingly shown in the recent conference of employers and labor leaders in New York which resulted in the creation of a permanent board of conciliation. American workingmen generally, instead of seeking to limit output, strive to increase it, and they find their reward in the cheapening of production, which enables the manufacturer to compete in foreign markets and thus get rid of the surplus beyond the demands of home consumption, with the result of keeping his factory going and giving steady employment to the operatives throughout the year.

COMPETITIVE ENERGY BUT PARTLY DEVELOPED.

It may be assumed that, whatever the symptoms of a falling off in our sales abroad, the causes are not to be found in any decline of our industrial efficiency or in a more strenuous competition on the

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part of Europe. It is evident, however, that, if we would again attain the rate of progress of a year ago and keep it against all comers, we must avail ourselves of something more than the indigenous resources that have been described. As yet, we can not be said to have made full use of our powers. It must not be forgotten that, as has frequently been pointed out, our sudden and surprising success in invading Europe with manufactured goods was due, not to concerted and systematic effort on our part, but to the need of finding outlets for surplus product and the unlooked-for recognition by European purchasers of the superiority of many articles of American manufacture. To a very great extent, our goods have sold themselves in the European markets, and that, too, in the face of high tariffs, of the hostility of industrial interests, and of a very general indisposition on the part of our manufacturers to adapt their styles, patterns, etc., to the tastes or prejudices of foreign consumers.

NECESSARY AIDS TO FUTURE GROWTH.

It may be said, indeed, that we have hardly more than entered upon a novitiate in fitting ourselves for international competition. The establishment of sample warehouses and agencies at important trade centers, the employment of commercial travelers conversant with the language, customs, trade usages of particular countries; the development of adequate banking and transportation facilities; the adoption of proper methods of packing; the offering of more liberal credits—these are some of the conditions of the full utilization of our opportunities in foreign markets. If to these is added provision for a larger volume of exchange with countries which, to a greater or less extent, are now excluded from our markets, the real strength of our competitive powers will be developed.

INCREASING POPULAR INTEREST IN FOREIGN TRADE.

It is encouraging to note that the people of the United States are becoming more and more sensible of the value of foreign trade and the importance of intelligent and well-directed efforts for its expansion. The growth of popular comprehension and approval is illustrated not only by the establishment of commercial museums, the organization of export associations, the demand for the creation of a separate department of the Federal Government having special charge of industry and commerce, and for the improvement of the consular service as an agency of commercial expansion, but also by the fact that our educational institutions, one after another, are rapidly adopting commercial instruction as an important feature of their work. Even the ordinary high schools are engrafting commercial geography upon their courses, and during the past year the

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Bureau of Foreign Commerce has received applications from teachers and scholars in many parts of the country for copies of monthly and other consular reports as aids in this branch of study. The requests for information as to trade conditions in foreign countries from manufacturers and exporters have multiplied rapidly, and it may now be said that there is hardly an important business concern in the United States having a present or prospective interest in foreign trade which does not avail itself of the data furnished by the consular service.

CONDITIONS IN UNDEVELOPED MARKETS.

The relation of the economic forces of the United States to those of Europe may be taken as the surest index to the probable future of our trade with the rest of the world; for it must be evident that, if we can continue to compete with European industries in their home markets, we shall have but little to fear from their rivalry in the neutral or undeveloped markets, where we would meet them on an equal footing. Even in Canada, notwithstanding a preferential tariff of 33⅓ per cent in favor of British imports, we continue, says Consul-General Bittinger, of Montreal, to enjoy "more of Canadian custom than the rest of the world put together," and many classes of goods which some years ago were bought in Great Britain are now more cheaply and more conveniently purchased in the United States. Last year, our sales to Canada amounted to more than $110,000,000, while those of Great Britain were only about $43,000,000. In Mexico, Consul-General Barlow reports, the purchases from the United States show a large increase—over $4,000,000, or 11.8 per cent—while those from every other country exporting largely to Mexico, except Germany, show a large decrease. The German gain was only about $411,000, or 5.8 per cent. In the reports from Central America and South America, there are gratifying indications of substantial growth in the sales of our goods, and we are steadily widening the variety of our exports to Africa, Asia, Australasia—in other words, to every part of the world.

COMMERCIAL WORK OF CONSULAR OFFICERS.

In the Review of the World's Commerce introductory to the annual reports for 1901* the effort has been made to summarize the detailed reports of the consular officers in such a way as to bring out the points of chief interest as to the trade and industries of the various countries and the obstacles to, as well as the opportunities for, the sale of American goods. It is but due to the consular officers to add that the quality of their work shows continued

*Commercial Relations of the United States (in press).

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improvement, and that, thanks to their industry and promptitude, the Department is again enabled to transmit the annual reports to Congress within a month after the close of the calendar year.

FREDERIC EMORY,
Chief,
Bureau of Foreign Commerce.

DEPARTMENT OF STATE,
January 21, 1902.

COMMERCIAL AND ECONOMIC CONDITIONS IN MEXICO.

The following extracts are from the annual report* of Consul-General Barlow, of Mexico City:

LOCAL IMPROVEMENTS.

Since the present era of peace and prosperity began in Mexico, under the rule of President Diaz, a new capital has been growing up, which bids fair to be ere the close of the present century one of the stateliest, wealthiest, and most beautiful cities of the Americas. During the past twenty-five years, the city founded by Cortés on the ruins of the capital of the conquered Aztec Empire has undergone a great change, and each year the progress of modernizing it is more noticeable. True, the city is losing much of its old picturesqueness; but picturesqueness and civilization are rarely good friends.

Narrow and dirty streets are being superseded by broad asphalted avenues, paved largely by American companies, and beautiful macadam drives, rolled by American steam street rollers and made of stone crushed by American machinery. Street-sprinkling carts are coming into use, and gangs of men are being employed to keep the streets clean. A great canal, built for the purpose of draining the city and furnishing an outlet for its sewage, carrying off the water after the abundant rainfalls of the rainy season and furnishing an outlet for the neighboring lakes, thus preventing the possibility of a recurrence of the former disastrous floods, has been completed a little over a year. A sewerage system covering the entire city is to be finished within the present calendar year.

Parks are being improved and beautified by competent men. Shade trees are being planted. Plazas or public squares, where the lower classes congregate in great numbers, are being improved.

The city is one of the best lighted in the world. One of the

* To appear in full in Commercial Relations, 1901.

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electric-light companies is American, and another firm is now laying light and power cables.

Over 50 miles of electric street railroad have been built and put in operation in this city within the past two years, and 50 miles more will be in operation a year hence. All of the material for this street railroad has come from the United States, save the boilers for the power house.

Automobiles of American manufacture are quite numerous on the streets and in the parks. The private carriages of the wealthy residents are equal to those of any city in the world. Many of the carriages and most of the teams have been imported from the United States.

Modern business blocks, built on the American plan, are being erected, and public buildings with American conveniences are replacing the relics of past generations. American apartment houses are taking the place of the old Mexican "vivienda" buildings, and are proving to be splendid investments. Some years ago, the resident Americans began to build houses in a part of the city then but sparsely settled. This section is now the most desirable residence portion, and land in the vicinity commands higher prices than anywhere else, having increased in value as much as tenfold within the past twenty years. It can not be said yet that American houses are superseding the Mexican ones, but conveniences, such as bathrooms, closets, kitchens with iron stoves and ranges, grates in living rooms, oil and gasoline stoves, electric lights and bells, etc., are being rapidly introduced into Mexican houses, and practically all are imported from the United States. The old patio style of house—with a large court in the center, around which are built the rooms—which is intended for hot countries and is wholly unsuited to this climate, is being slowly but surely encroached upon by the compact American structure, and this is bound to be more noticeable as land values rise.

Within the present year, some $10,000,000 Mexican currency* has been appropriated by the federal and municipal governments for improvements in this city. An entire block has been purchased for a site for a national theater, and the demolition of the buildings thereon has already begun. The middle of an adjoining block has been purchased, and the buildings, including the old National Theater, have already been removed for the purpose of extending the avenue of the Cinco de Mayo—one of the broadest and handsomest streets of the city—through from the cathedral to the new theater. A new palace of justice is being built; a magnificent post-office is soon to be begun; fine buildings for the geological

* During the year 1901, the Mexican dollars was valued at 47 cents.

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department, recently established, are being constructed; the national palace is being thoroughly renovated; and many other improvements are being considered by the federal and municipal authorities Great activity is noticed in all building lines.

CLIMATE.

The climate of the City of Mexico is probably the pleasantest and healthiest of any large city in the world. Situated in the Tropics, it is generally regarded by people living elsewhere as having a tropical climate, with intense heat in the summer months; but its altitude of 7,472 feet above sea level offsets its low latitude, tempers its climate, and renders impossible such marked changes in temperature as are experienced at lower altitudes. Its situation in the center of a great valley, some 200 miles in circumference, completely walled in by high mountains, serves as a further protection against sudden changes in temperature and severe storms.

The mean annual temperature, in the shade, of the City of Mexico for the period of twenty-five years past has been 59.79° F. The month of May, just preceding the beginning of the rainy season, is the hottest month of the year, with an average temperature of 64.58°; and December, with an average temperature of 53.60°, is the coldest.

While the temperature varies only a few degrees throughout the year, the daily range is comparatively great, averaging in the shade about 20° and in the open air about 30°. This wide daily range is due to the high altitude. There is always a marked difference between sun and shade temperatures and between day and night temperatures. The latter is an advantage rather than a drawback to the climate. Thus, while it is quite warm during several hours of each day, it is always cool at night. The range of temperature during the twenty-four hours is not a source of danger to acclimated persons, though to visitors it renders necessary care in the matter of wearing apparel.

POPULATION.

The population of the City of Mexico is conservatively placed at 400,000. The city is far more compactly built and densely populated than any city in the United States.

Of the foreign colonies the Spanish is, naturally, the largest. It is estimated to number about 10,000. The American is next in point of numbers, aggregating about 4,000. The French colony has about 3,000; the English colony, about 1,500; the German, about 1,000; and the Italian, about 400.

The total number of Americans in the Republic is about 10,000. Americans are yearly coming here in increasing numbers to live and to engage in business. American capital is becoming more deeply

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interested in this city and in the entire Republic. Many of the Americans come with the expectation of remaining here permanently. One notes an increased disposition on their part to buy lots and build houses. The influence of American customs upon those of the native people is beginning to be felt. Americans residing here or temporarily sojourning in this country are universally treated with the greatest consideration and courtesy, officially and personally, by the Mexican people. It is almost unnecessary to state at this late date that property and life are as safe here as in the United States, that the laws are rigidly enforced, that a foreigner obtains justice as fully as a native, and that the personal liberty of every man is zealously guarded.

COST OF LIVING.

The cost of living in Mexico depends largely upon the tastes and adaptability of the person. In a general way, it may be said that if native products are consumed the cost of living is about the same in gold as in the United States; if imported products are used the cost of living is 50 to 100 per cent greater. As applied to Americans, the cost of living depends largely upon the length of residence in Mexico. An American family coming to this city, accustomed to the conveniences of the United States, finds it extremely difficult to live here at all for the first year or two. It is simply impossible to obtain the comforts and luxuries one finds at home. To begin with, the houses are built differently. The common form of a Mexican house is that of a square box, with the rooms built around an open court, without any method as to arrangement or convenience. The walls are of stone and very thick, holding moisture a long time during the rainy season. This makes the rooms damp and chilly and renders fire necessary on many days. There is no provision for heating, and a Mexican raises his hands in horror at the suggestion of fire in a living room. An American is always warned on coming here against having his house warm and then going out into the open air. It is true that great care must be used, as pneumonia is perhaps the most deadly disease in this altitude, but there is no doubt that a little fire in living rooms adds greatly to the comfort of staying in them. Oil stoves are sufficient, and they are gradually coming into use.

Bathrooms are seldom found in Mexican houses, it being the custom to go to bath houses for one's bath. This deficiency is being supplied in the new houses, but as yet there are not many modern houses in Mexico. Kitchens are supplied with braseros, or charcoal cooking ranges. An American housewife finds it difficult to cook with charcoal at first and wants an American iron cooking stove. Wood for fuel is very expensive, costing about 25 cents per arm load,

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as it is sold here. Charcoal costs about $1 Mexican (say, 50 cents gold) per bushel, and is much cheaper as fuel. The question of servants is a serious one, as Mexican servants are almost worthless, judged by the American standard of good service.

RENTS.

Rents are extremely high in Mexico. A six-room house or vivienda (flat) costs from $50 to $150 silver per month, according to location. The same house in a city in the United States, of similar size, would rent for from $15 to $25 gold per month. A house that would rent in the United States, according to location and appearance, for $100 gold per month commands $500 silver (or about $250 gold) per month here. Rents of business houses are fully as high in proportion. It may be stated in a general way that private or business houses, rented, are expected to yield 12 to 15 per cent per year on the investment. Rents in the suburbs are almost as high as in the city proper.

REAL ESTATE.

Real-estate values have increased enormously in this city in the past few years. Lots in desirable residence sections of the city that were worth a few years ago only a few cents per square meter* are now worth from $15 to $25 per square meter. A desirable building lot in a choice location, 50 to 150 feet, costs from $10,000 to $15,000. In outlying sections and in the suburbs, the cost will be about one-half of this. A house that will cost $5,000 to build in the United States will cost from $17,000 to $20,000 Mexican silver to build in this city. The following figures of the cost of building material and building, obtained from a prominent local firm of American contractors, will be of interest: The cost of brick is from $14 to $16 per thousand; a better grade can be bought in the United States for $4.50 to $5 per thousand. Lumber of an inferior quality costs $50 to $60 per thousand feet; a better quality can be bought in the United States for $13 to $14 per thousand. It is impossible to secure properly dried and seasoned Mexican lumber. Imported lumber, with freight and duty added, costs about three times as much as in the United States. Labor is apparently cheap, but is really about three times as expensive as in the United States. These contractors state that from personal experience they know that one American mason at $8 per day Mexican silver will do as much work as twenty Mexicans at $1.25 per day. A Mexican bricklayer will lay on an average 200 bricks per day; an American will lay 3,000 per day. The Mexican bricklayer will require two or three

*1 meter=39.37 inches.

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tenders, while one American tender will attend to two American bricklayers.

Sand costs $2 Mexican per meter; in the United States it costs about 50 cents gold per meter. Plastering costs 35 cents Mexican per square meter, with rough finish; in the United States it costs about 17 cents per square meter, with hard finish. Plaster of paris, which costs $4.75 cents gold per ton in the United States, costs $40 Mexican silver per ton here; it is rarely used in Mexico. Neither lath nor wooden partitions are used here. Cement costs $10 Mexican silver per barrel here, and $2 gold per barrel in the United States. Building stone is mostly volcanic stone and very poor, except the Pachuca stone, which is costly. Mexican stonecutters are probably better workmen than any other class of Mexican laborers. A Mexican stonecutter, who earns $1.25 silver per day, does as much and as good work as an American stonecutter at $4.50 to $5 gold per day. Mexican carpenters are almost worthless. A carpenter is paid $1 to $1.25 silver per day, and he considers hanging one door a big day's work. An American carpenter will easily hang ten doors per day. Doors which cost from $8 to $10 gold per opening in the United States cost $40 to $60 silver per opening here. All imported articles, such as glass, hardware, plumbing, finishings, steel frames, doors, and lumber generally, cost about three time as much as in the United States.

The cost of construction of business buildings is in about the same proportion. Sites for business blocks, centrally located, bring high prices. To illustrate, the Mexican Government recently purchased the middle of a long block for the purpose of cutting a street through. Lots were sold on either side of the new street for $120 Mexican silver (about $60 gold) per square meter for inside lots and $179 Mexican silver ($89 gold) per square meter for corner lots.

FURNITURE.

The cost of furniture in Mexico is about three times what it is in the United States. Furniture of native lumber is almost worthless, for the reason that the wood is never properly seasoned. The duty and freight on imported furniture are high. Much of the furniture imported into this country comes from the United States, and it will be found cheaper in the end to buy imported furniture.

While speaking of furniture, it may be said that many Americans who have come to this city to live and have brought their household effects with them have suffered much inconvenience and loss of time and money because of not taking out consular invoices. An invoice should in every case be taken out at the nearest Mexican consulate for household goods coming to Mexico.

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CLOTHING.

Prices of clothing for men and women vary widely, but in a general way men's clothing costs about the same in gold here as in the United States, and women's clothing perhaps 50 per cent more. Ready-made clothing is not used as yet to any extent. Cloth for suitings and overcoats is mostly imported from the United States, England, and the Continent, but mainly from England. There has been a healthy growth in the past few years in the importations of woolens for clothing from the United States, and there is reason to believe that we may control this trade in time. Owing to lower duties, cloth imported from Europe is slightly cheaper than in the United States. There are a number of American tailors in this city who do a good business. The adoption of American styles in clothing has been very marked in recent years. Well-to-do Mexicans are discarding the old "charro" suits, high sombreros, and pointed shoes for American-style clothing, hats, and shoes. Imported American hats cost about the same in gold here as in the United States, with freight and duty added. Imported American shoes cost about twice as much in gold here as in the United States. Furnishings cost about the same, with freight and duty added. Underclothing costs about twice as much, with freight and duty added.

In women's clothing, fine imported woolens, silks, and cottons are cheaper here than in the United States, owing to a lower customs tariff, but medium-grade things are, as a rule, more expensive than in the United States. Hats and shoes are more expensive and gloves are cheaper. Toilet articles are more expensive. Dressmakers' and tailors' charges are high.

LUXURIES.

All luxuries are much more expensive here than in the United States. Fine china and glass ware are cheaper. Jewelry is perhaps a little cheaper. Carriages, automobiles, bicycles, and the like are very high and pay a heavy contribution tax.

WAGES.

Wages are about the same in gold here as in the United States for the same classes of work. Competent Americans in any line usually find employment, but, as a rule, any American who works for a salary can earn as much in the United States as in Mexico, and in the United States he can enjoy many advantages that he can not enjoy here. Hundreds of letters are received at this office from young men in all lines, mostly graduates from some college, who want to come to Mexico to make their fortune and inquire about the openings here for them. The same reply can be given to all of them, viz: Mexico is a bad place for a young, inexperienced man

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without ample funds, in any line he chooses to follow. True, this is a new and undeveloped country and offers great inducements for the investment of capital and to the man with a few thousand dollars who desires to come here and engage in business. A few people without money to start with come here and make money, but they are exceptions. No man working for a salary should come to Mexico without a definite engagement in advance at a better salary than he is able to earn in the United States, or without sufficient funds to live on for several months while seeking employment and with which to return to his home if unsuccessful in finding it.

COMMERCE.

The City of Mexico is to the Republic of Mexico, to an even greater degree perhaps, what Paris is to France. Being the capital of the country and the commercial center, with no other city in the Republic approaching it in population, its influence is supreme; being the railroad center, it is the distributing point for the rest of the Republic; being the banking center, the bulk of the financial transactions of the Republic pass through it. Much of the agricultural and mining business and some of the manufacturing business of the rest of the Republic are directed from this city. In a word, it is the administrative center of the Republic, commercially as well as politically.

From the foregoing, it follows that the trade of the city is nearly as general as that of the entire Republic. The most important single line of trade and that which shows the largest amount of imports is in machinery and machinery supplies. This is practically controlled by Americans. The hardware trade, which is a good one, is largely in the hands of the Germans, though in the past few years American hardware has been making deep inroads into the German imports in this line. While the large hardware stores are run by Germans, all of them now carry large lines of American hardware. The dry-goods trade, which is next in importance after the machinery trade, was controlled early in the last century by the English and later by the Germans, but is now controlled by the French. Imports of American dry goods are increasing, however, and they are found in most of the large stores. The grocery trade is controlled by Spaniards, and their monoply of this line is almost absolute. There is one American wholesale grocery store and a few small retail stores, but these exist mainly to supply the trade of the resident Americans. There appears to be no large field for imports of American groceries in Mexico, the demand being mostly from resident Americans and a few Mexicans who have lived for some time in the United States. Imports of California wines have been steadily

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increasing in the past few years, as have also imports of American fresh fruits.

The principal employment of the Americans resident here is in the operation of the railroads. The Americans in Mexico may be said to have come with the railroads, and have ever since practically operated them. Aside from the machinery trade, the Americans are preeminent in no other line. There are a few American stores of various kinds in the city, but they supply mostly the trade of resident Americans. Two American furniture stores do a large business. One manufactures furniture here while the other imports it from the United States. American shoe stores have a small trade among the better class of Mexicans and foreigners, as well as Americans. An American shoe factory is now in course of construction in this city.

One urgent need of the city appears to be a hotel conducted on American lines. The hotels and restaurants of the city are poor, especially as to service. Whether or not it is possible to manage a hotel according to our standard, with profit, is problematical, but there is no doubt that the tourist travel to this city and Republic would be greatly increased if there were better hotels.

It should be said that the stores of this city are large and well arranged, and some of them carry enormous stocks. The appearance of the stores is excellent and their show windows compare favorably with those of any American city. As a rule, the large houses are well and conservatively managed. Failures in business here are far rarer than in the United States.

STATISTICS.

The import and export figures for the entire Republic are given below for the fiscal year ended June 30, 1901, compared with those for the fiscal year ended June 30, 1900, in United States currency:

IMPORTS.

Description.	1900–1901.	1899–1900.	Increase.	Decrease.
Animal substances	$4,860,353.05	$4,359,923.00	$500,430.05	
Vegetable substances	10,185,602.18	8,367,184.00	1,818,418.18	
Mineral substances	19,031,659.01	16,555,522.00	2,476,137.01	
Dry goods	9,212,373.76	9,928,361.00		$715,987.24
Chemical and pharmaceutical substances	2,585,320.34	2,450,028.00	135,292.34	
Spirituous, fermented, and natural beverages	2,788,920.07	2,809,986.00		21,065.93
Paper and its products	2,215,573.12	2,126,630.00	88,943.12	
Machinery and apparatus	9,531,527.59	9,843,880.00		312,352.41
Vehicles	1,446,707.85	1,392,847.00	53,860.85	
Arms and explosives	1,512,767.64	1,715,578.00		202,807.36
Miscellaneous	1,712,646.08	1,768,239.00		55,592.92
Total	65,083,450.69	61,318,175.00	3,765,276.69	

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Countries of origin.

Country.	1900–1901.	1899–1900.	Increase.	Decrease.
Europe.				
Germany	$7,084,741.65	$6,673,846.00	$410,895.65	
Austria	419,002.82	414,983.00	4,019.82	
Belgium	758,737.56	802,374.00		$43,636.44
Denmark	9,754.44	4,619.00	5,135.44	
Spain	2,876,742.65	2,919,162.00		42,419.35
France and colonies:				
France	6,564,107.80	6,757,138.00		195,030.20
Algiers	8,570.25	849.00	7,721.25	
Cochin China	250.00		250.00	
Senegambia	813.00	3,343.00		2,530.00
Greece	1,824.00	2,068.00		244.00
Netherlands and colonies:				
Netherlands	279,278.23	177,511.00	101,767.23	
Java	1,226.88	9,813.00		8,586.12
Sumatra	1,358.00	2,187.00		829.00
Great Britain and colonies:				
Great Britain	9,924,634.84	10,483,200.00		558,565.16
Australia	82,685.74	29,522.00	53,163.74	
Canada	8,514.50	24,300.00		15,785.50
British Columbia	2,930.00		2,930.00	
Cape Colony	1,130.00		1,130.00	
British Honduras	5,096.26	59.00	5,037.26	
India	357,463.87	436,217.00		78,753.13
Island of Grenada	403.00		403.00	
Jamaica	1,686.00	459.00	1,227.00	
Italy	535,581.15	463,224.00	72,357.15	
Norway	102,905.22	91,909.00	10,996.22	
Portugal	55,676.40	68,476.00		12,799.60
Russia	1,626.20	3,810.00		2,183.80
Sweden	31,636.06	44,038.00		12,401.94
Switzerland	333,943.52	322,318.00	11,625.52	
Turkey	18,827.68	18,806.00	21.68	
Total	29,471,147.72	29,754,231.00		283,083.28
Asia.				
Arabia	739.00	761.00		22.00
China	111,273.91	128,362.00		17,088.09
Japan	54,410.83	51,272.00	3,144.83	
Persia	1,961.00	429.00	1,532.00	
Siam	1,153.00	303.00	850.00	
Total	169,543.74	181,127.00		11,583.26
Africa.				
Kongo Free State	275.00	370.00		95.00
Egypt	12,433.00	20,766.00		8,333.00
Morocco	64.00	314.00		250.00
Tunis	905.00	42.00	863.00	
Zanzibar	2,748.37	4,199.00		1,450.63
Total	16,425.37	25,691.00		9,265.63
America.				
Bolivia	26.00	1,012.00		986.00
Brazil	6,392.20	5,988.00	404.20	
Colombia	30,915.80	82,792.00		51,876.20
Costa Rica	80.00	2,795.00		2,715.00
Cuba	55,649.00	49,637.00	6,012.00	
Chile	6,597.00	4,763.00	1,834.00	
Ecuador	67,995.02	71,852.00		3,856.98
Salvador	9,464.00	1,746.00	7,718.00	
Guatemala	55,404.49	32,849.00	22,555.49	

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Countries of origin—Continued.

Country.	1900–1901.	1899–1900.	Increase.	Decrease.
America—Continued.				
Honduras		$26.00		$26.00
Paraguay	$52.00	55.00		3.00
Peru	2,460.00	2,906.00		446.00
Argentine Republic	447.00	21,937.00		21,490.00
Santo Domingo	246.00	285.00		39.00
United States	35,165,253.10	31,026,415.00	$4,138,838.10	
Philippines		20.00		20.00
Porto Rico	25.00		25.00	
Uruguay	956.00	402.00	554.00	
Venezuela	24,371.25	51,646.00		27,274.75
Total	35,426,333.86	31,357,106.00	4,069,207.86	
Résumé.				
Europe	29,471,147.72	29,754,231.00		283,083.28
Asia	169,543.74	181,127.00		11,583.26
Africa	16,425.37	25,691.00		9,265.63
America	35,426,333.86	31,357,106.00	4,069,207.86	
Total	65,083,450.69	61,318,175.00	3,765,275.69	

EXPORTS.

Description.	1900–1901.	1899–1900.	Increase.	Decrease.
Mineral substances	$53,637,492.07	$46,590,072.50	$7,047,419.50	
Vegetable substances	18,074,555.12	25,469,737.00		$7,395,186.89
Animal products	5,747,564.86	5,316,856.50	430,708.38	
Manufactured products	1,197,521.55	1,406,843.50		209,321.61
Miscellaneous	346,278.61	340,457.00	5,821.61	
Total	79,003,412.22	79,123,966.50		120,554.28

In these figures is included the increase due to the difference between the price of gold exported at the conventional rate of $675.416 per kilogram and the commercial price of the metal.

Countries of destination.

Country.	1900–1901.	1899–1900.	Increase.	Decrease.
Europe.				
Germany	$2,509,232.01	$2,524,743.50		$15,511.49
Austria	14,607.00	15,495.00		888.00
Belgium	2,211,364.21	963,051.50	$1,248,312.71	
Denmark		50.00		50.00
Spain	593,856.84	456,086.50	137,770.34	
France	1,412,151.57	3,318,882.50		1,906,730.93
Holland	78,527.48	118,956.00		40,428.52
Great Britain and colonies.				
Great Britain	6,016,538.41	6,229,023.50		212,485.09
Canada	360.00	4,158.50		3,798.50
British Honduras	54,527.50	96,196.50		41,669.00
Jamaica		41,828.50		41,828.50
Italy	1,224.50		1,224.50	
Russia	28,026.61	68,586.50		40,559.89
Sweden		125.00		125.00
Total	12,920,416 11	13,837,183.50		916,767 39

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Countries of destination—Continued.

Country.	1900–1901.	1899–1900.	Increase.	Decrease.
Asia.				
China		$2,130.00		$2,130.00
America.				
Bolivia	$87.50		$87.50	
Colombia	20,598.95	24,758.50		4,159.55
Costa Rica	313.00	2,603.50		2,290.50
Cuba	2,573,257.50	2,941,014.50		367,757.00
Chile	1,627.50	141.50	1,486.00	
Ecuador		817.50		817.50
Guatemala	183,194.30	119,498.00	63,696.30	
Honduras	481.50		481.50	
Nicaragua		420.00		420.00
Peru	1,499.37	3,246.00		1,746.63
United States	58,613,164.07	58,051,142.50	562,021.57	
Porto Rico		1,825.00		1,825.00
Salvador	13,529.55	43,399.50		29,869.95
Total	61,407,753.25	61,188,866.50	218,886.25	
Résumé.				
Europe	12,920,416.11	13,837,183.50		916,767.39
Asia		2,130.00		2,130.00
America	61,407,753.25	61,188,866.50	218,886.25	
Total	74,328,169.36	75,028,180.00		700,010.65

In these figures the price of gold is fixed at the conventional rate of $675.416 per kilogram. The following table shows the difference in the total export figures, with gold calculated at the conventional and at the market price:

Description.	1900–1901.	1899–1900.	Decrease.
Calculating gold at the market price	$79,003,412.22	$79,123,966.50	$120,554.28
Calculating gold at the conventional price of $675.416 per kilogram	74,328,169.36	75,028,180.00	700,010.65
Difference	4,675,242.86	4,095,786.50	579,456.37

The foregoing figures show a very unsatisfactory year's business for Mexico. Imports increased over the preceding fiscal year $3,765,275.69, or 5.8 per cent, while the total exports show a slight falling off. A glance at the export figures, however, shows a decline of $7,395,186.89 in vegetable substances, and an increase of $7,047,419.50 in mineral substances. Most of this increase is due to the exportation of gold and silver bullion, which is a net loss to the nation's resources. Thus, the actual decrease in exports amounts to nearly $14,000,000. Encouragement is to be found in the falling off of certain imports, such as dry goods, indicating an enlarged home supply. Extreme tightness prevailed in the Mexican money market for some time. This was due largely to the heavy exportation of gold and silver bullion and coin The wars in China and the Philippines created a great demand for Mexican silver dollars,

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which caused a drain on the country's metal currency. This became so marked that the Government finally reduced its mintage charges and the required fineness of gold and silver for coinage purposes. This measure caused considerable relief. The average value of the Mexican peso for the fiscal year was about 50 cents, or a trifle less. Since the 30th of June last, however, its value has been steadily declining until it is now worth about 45.5 cents, and a further decline is expected. It is probable that when the large hacendados (ranch owners) begin to realize on exported agricultural products for this year, the price of exchange will drop a few points.

From the standpoint of the American, the import and export figures are most satisfactory. While imports from the United States show a large increase, those from almost every other country exporting to Mexico—except Germany—show a large decline. Imports from the United States gained $4,138,838.10, or 11.8 per cent, while the total increase in imports amounted to only $3,765,375.69, or 5.8 per cent. In other words, while the imports from the United States show an increase of $4,138,838.10, the imports from the rest of the world show a decrease of $373,562.41. Imports from the United States amounted to 54.3 per cent of the total imports, as compared with 50.6 per cent in the preceding year.

The balance of trade with the United States is in favor of Mexico. The figures show that while $35,165,253.10 worth of goods was imported from the United States, $58,613,164.07 worth was exported thither. The first thing to be considered is that a great deal of gold and silver bullion was shipped to the United States. The exact figures are not obtainable as yet, but they are undoubtedly large. It must also be considered that while imports from the United States show a gain of 11.8 per cent, exports to the United States show a gain of less than 1 per cent, or $562,021.57. The value of exports to the United States for the fiscal year ended June 30, 1900, showed a gain of 10.8 per cent over the fiscal year ended June 30, 1899. Thus, the balance for the year 1900–1901 is decidedly more favorable than that for the year 1899–1900; and when the increased exports of gold and silver bullion to the United States during the past fiscal year are taken into consideration, the balance is still more favorable.

Imports from Germany during the fiscal year 1900–1901 show an increase of $410,895.65, or 5.8 per cent, while exports to Germany show a falling off of $15,511.49, making a gain in the balance of trade of $426,407.14.

Trade between Mexico and France shows a decided falling off. The decrease in imports from France amounted to $193,030.20, while the decrease in exports amounted to $1,906,730.93. Imports from Spain show a falling off of $42,419.35, while exports to Spain show

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an increase of $137,770.34, showing a decided balance in favor of Mexico.

The most noteworthy figures in the foregoing tables, aside from those giving the trade between Mexico and the United States, are those showing the falling off in trade (especially in imports into Mexico) between Mexico and Great Britain. Imports from Great Britain show a decrease of $558,565.16, or 5.3 per cent, from the preceding fiscal year. While it is impossible at this time to give definite figures, it is known that the greatest falling off in any one line is in dry goods, particularly cotton textiles. The value of cotton textiles imported from Great Britain during the year may be roughly estimated at $1,200,000, as compared with $2,100,000 during the preceding year, a decrease of nearly one-half. Importations of railway iron and steel for the last fiscal year amounted to about one-third of those during the preceding year, or, roughly, about $188,000 as compared with $585,000. Importations of galvanized sheets fell from about $490,000 in the fiscal year 1899–1900 to about $290,000 in the fiscal year 1900–1901. Importations of linen textiles fell from some $190,000 in the fiscal year 1899–1900 to $135,000 during the fiscal year 1900–1901. In cotton textiles a remarkable falling off is noted in prints and bleached cottons. The decrease in importations of cotton and linen textiles from Great Britain during the past few years is due in great part to the rise of the native cotton and linen manufacturing industries. Some increases in minor lines of imports are noted, but none is remarkable.

TRANSPORTATION.

Numerous changes in the ownership and management of Mexican railroads have taken place within the past year. The Mexican Central Railroad, the most important system in the Republic, has recently passed into the control of a group of capitalists identified with the Standard Oil Company interests. No radical changes in the management of the road have yet been made, and it can not be positively stated that there will be. What is more important to Mexico is that with stronger financial backing the road is certain to be greatly improved in every line. The extension of the Colima branch to the port of Manzanillo is being pushed rapidly and will probably be finished within two years. In this connection, work on the port works at Manzanillo, under the direction of Edgar K. Smoot, is progressing satisfactorily, and the harbor will probably be finished by the time or soon after the railroad reaches the port. The advantages to Mexico of this transcontinental connection are obvious. The extension of the road during the year ended December 31, 1900, was as follows: On the Zamora extension, 22.58 miles,

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between Chavinda and Tarecuato; on the San Marcos extension, from La Vega, on the Ameca extension, to San Marcos, 29.37 miles; the Parral line, between Parral and Adrian, 12.03 miles; and a branch from Adrian to Santa Barbara, 5.46 miles—making a total of 69.44 miles. The total mileage of the road on December 31, 1900, was 2,124.4; mileage of side tracks, 227.53; total, 2,351.93 miles. Since December 31, 1900, work has been in progress on the Zapotlan extension, which is now nearly completed to Tuxpan, 115 miles from Guadalajara. The Parral extension has been completed to El Rosario, a distance of 97 miles, and the Rio Verde extension has been completed from San Bartolo to Rio Verde, a distance of 25 miles. During the year ended December 31, 1900, 93.01 miles of track were ballasted, making a total of track ballasted within the past six years of 265.11 miles, at a cost of $938,141.21 Mexican currency.

The Mexican National Railroad, a narrow-gauge road from Laredo, Tex., to this city, has recently passed into the control of New York capitalists, and the change to a standard-gauge road is now practically assured. The cost of this work is estimated at $10,000,000 in United States currency, and it is believed that $7,500,000 of this amount will be spent in the United States for equipment and material. It is expected that work on the broadening of the gauge will begin in a few months. The Mexican International Road, from Eagle Pass to Torreon, on the line of the Mexican Central, has also passed into the hands of the same interests which control the Mexican National, and extensive improvements on this road, especially in the matter of rolling stock, are promised.

Some construction work has been done in the past few months upon the Kansas City, Mexico and Orient Railroad, a proposed road from Kansas City to Port Stilwell (formerly Port Topolobampo), on the Gulf of California. The same interests, commonly known as the Stilwell interests, have recently acquired the Pachuca, Zacualtipan and Tampico Railroad. A few miles of this road have been built for some years from Pachuca toward Zacualtipan into a rich iron-mining region. The concession for the road carries with it a liberal subsidy for construction from the Mexican Government, and the proposed line of the road is said by engineers to be the most feasible route to Tampico. It is intended to use the line of the Mexican (Veracruz) Railroad from Pachuca to this city—temporarily, at least. The road, when completed, will give almost an air line from this city to Tampico.

The Mexican Government has recently let a contract to a Chicago firm to build a canal from the port of Tuxpan to Panuco, on the Panuco River, ultimately connecting with Tampico. Some New York capitalists recently obtained an option on the Hidalgo

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Railroad, a narrow-gauge road running from this city with the ultimate destination of Tuxpan. At the time the option was held by these capitalists, the Mexican Government agreed, as an inducement to the completion of the road to Tuxpan, to build a harbor at Tuxpan. The deal fell through, however, and nothing definite has been done since, though several American capitalists are said to be considering taking the road.

The work on the Veracruz and Pacific Railroad from Cordoba, on the line of the Mexican (Veracruz) Railroad, to San Juan Bautista, on the line of the Tehuantepec National Railroad, is progressing satisfactorily, and will probably be finished within two years. Work on the Tehuantepec National Railroad and upon the port works at Coatzacoalcos and Salina Cruz, which ports the railroad will connect, is also progressing rapidly, and will be finished within the next two or three years. As an overland transisthmian route, this railroad will be of immense importance to American shipping when completed. Much work is being done on the Mexican Southern Railroad, a narrow-gauge road from Puebla to the city of Oaxaca, in the way of improving the roadbed, putting in breakwaters (the road runs along a cañon in which mountain torrents are sometimes very destructive), bridges, etc. The roadbed is now one of the best in the Republic, and the road is in a prosperous condition. An extension from the city of Oaxaca to Ocotlan, in the center of a rich mining district, is nearly ready to be put in operation. An electric line from Tehuacan, on the line of the Mexican Southern, to Esperanza, on the line of the Mexican (Veracruz) road, has recently been built. No construction work has been done in the past year on the Mexico, Cuernavaca and Pacific Railroad, which runs from this city to the River Balsas, with an ultimate destination of the port of Acapulco or the port of Zapote, on the Pacific coast.

An electric road has been placed in operation within the past year from Torreon, on the line of the Mexican Central Railroad, to Lerdo, running through a rich cotton and agricultural district. A concession has recently been granted to a company of American and Mexican capitalists to construct an electric line around this city, connecting its suburbs. Some American capitalists have recently visited the Republic to investigate the possibilities of putting electric street railroads in several of the larger cities of Mexico, but as yet no steps have been taken toward securing concessions for their construction.

MANUFACTURING.

There is a healthy growth of manufacturing enterprise in Mexico. The great obstacle to manufacturing in this country is the lack of native fuel. American capitalists have recently acquired a very large

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tract of land in the vicinity of Tampico and have sunk several wells in the hope of finding petroleum, but as yet their efforts have been unrewarded. Some wells have also been sunk in the State of Veracruz and in other parts of the Republic, but no oil has been found in paying quantities. Some alleged coal has recently been found in the States of Tlaxcala and Puebla, but as yet none of it has stood a practical test.

Along the line of the Mexican Central Railroad, during the calendar year of 1900 (exclusive of those in the City of Mexico and of mining industries), 48 new manufacturing enterprises were established, as follows: One brass factory, 4 brick factories, 2 candle factories, 1 chocolate factory, 1 cigarette factory, 1 clothing factory, 7 corn and flour mills, 1 cotton factory, 1 cracker factory, 5 distilleries, 1 glycerin factory, 1 ixtle factory, 1 knitting factory, 2 match factories, 1 packing plant, 1 pasteboard factory, 1 rope and bag factory, 4 shoe and leather factories, 1 smelter, 3 soap and perfumery factories, 3 carbonated and mineral water factories, 2 starch factories, 1 steel plant, and 2 sugar mills.

There are at present in operation in the Republic 133 textile and dry goods mills. It is impossible to give recent statistics of the manufacturing of the country.

Following is a list of the manufactories in this city, compiled from the list of the Department of Contributions, the local directories, and other sources:

Description.	Number.	Description.	Number.
Distilleries and manufactories of liquors having a base of alcohol	14	Paper mills	4
Manufactories of wines and liquors	13	Shoe factories	7
Breweries	3	Lead-pipe factory	1
Vinegar manufactories	2	Cement factories	2
Bottlers of mineral and carbonated waters	3	Flag factory	1
Cigarette factories	8	Manufactories of pyrotechnics	2
Cigar factories	5	Candy factories	7
Hat factories	51	Cracker factories	3
Manufactories of dry goods, cotton, wool, and linen textiles and prints	22	Soap factories	15
Manufactories of beds and furniture of iron and other metals	18	Iron foundries	15
Manufactories of wood furniture	12	Type foundries	3
Mattress and pillow factories	9	Manufactories of agricultural and other implements	11
Manufactory of curtains and awnings	1	Manufactories of sewing machines and articles for domestic use	7
Manufactories of harness and supplies for horses and carriages	6	Manufactories of plate glass and glassware	7
Manufactories of saddlebows, shoe lasts, and other wooden forms	6	Manufactories of porcelain ware, china ware, glassware, and fine pottery	2
Starch factories	4	Manufactories of artificial stone, brick, tile, lime, etc	34
Glue factories	10	Manufactory of clay tubing	1
Ice factories	10	Rope, wire, and cord factories	2
Oil mills	6	Manufactories of paint, varnish, and axle grease	3
Coffee mills	12	Manufactories of acids, chemical products, white lead, and other pigments	15
Corn mills	26		
Flour mills	4		

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Description.	Number.	Description.	Number.
Manufactories of machinery bands	4	Manufactories of common candles	57
Manufactories of trunks, valises, canvas cots, beds, and springs	3	Manufactories of wax, wax candles, and wax products	21
Pasteboard factories	4	Perfume factories	4
Wood and paper box factories	12	Manufactories of artificial flowers	4
Manufactories of cartridges, ammunition, and munitions of war	3	Veil factories	4
Manufactory of soda and saltpeter	1	Manufactories of trimmings	8
Phosphorus and match factories	12	Playing-card manufactories	2
Shirt factories	11	Manufactories of blank books, account books, letter books, paper sacks, etc	11
Manufactories of underclothing and furnishings	17	Manufactories of scientific and orthopedic instruments	3
Brush factories	8	Manufactories of pianos, organs, and harmonicas	4
Manufactory of oilcloth, tarred cloth, etc	1	Manufactories of other musical instruments	13
Manufactories of cereal foods, macaroni, vermicelli, etc	11	Total	618
Petroleum refinery	1		
Chocolate factories	9		
Manufactories of fine paraffin candles	4		

NOTES.

The Blue Book of Mexico, published by the Massey-Gilbert Company, 1st Independencia 8, this city, during the past year, is a small directory of English-speaking people in the city, together with a partial business and general directory in English, which may be of some use to prospective exporters to this city. A general directory of the city, in Spanish, has also just been published by Ruhland & Alschier, Coliseo Viejo 16, this city, which is the most elaborate and accurate directory issued, though it is far from complete. The same firm publishes a general business directory of the Republic, which may be of value to prospective exporters in the United States.

The use of Spanish in catalogues and correspondence can not be too strongly recommended to American firms desiring to build up a trade in this country. Correspondence, circular letters, catalogues, and general advertising matter in English are worse than wasted on Spanish merchants. It is true that more Mexicans are learning the English language every year, but as yet they are comparatively few, especially outside of this city, and it is a safe rule to employ Spanish in all correspondence to Mexico. The same applies to commercial agents. It is, as a rule, useless for a business house to send a representative to Mexico who is ignorant of the Spanish language. It is also useless to expect that business of any kind can be transacted as quickly in Mexico as in the United States. American commercial houses desiring to build up a trade in Mexico should "make haste slowly."

A permanent exposition of American products in this city has recently been projected, and is a scheme worthy of every encouragement on the part of American business men.

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PROSPECTING FOR PETROLEUM IN MEXICO.

Consul-General Barlow sends from the City of Mexico, January 21, 1902, clipping from the Mexican Herald relative to the new law governing the prospecting for petroleum in Mexico, as follows:

A law has been issued to encourage prospecting for oil in Mexico. Among its provisions are the following:

The Federal Government is authorized to issue concessions for the exploitation of deposits of petroleum or gaseous carburets of hydrogen in vacant or national lands. Permits to explore may be issued either to private parties or to companies, and shall be good for one year. During that period, no one but the person or company will be entitled to prospect in the territory. Prospecting permits will be subject to a tax of 5 cents per hectare, payable in stamps on the document.

The sources or wells discovered must each be capable of producing at least 2,000 liters (528 gallons) of petroleum per day, or, in the same time, 20,000 liters of gaseous carburets of hydrogen suitable for fuel.

The concessions for exploitation will be good for ten years. Concessionnaires will enjoy the following franchises:

The right to export duty free the natural, refined, or prepared products resulting from the exploitation.

The right to import duty free on a single occasion machinery to refine petroleum or gaseous carburets of hydrogen and to prepare products of all kinds having crude petroleum as their base; the necessary piping for this industry and the attachments for said piping; pumps, iron or wooden tanks; iron or wooden barrels; gasometers and material for the buildings destined for the exploitation of the industry; all these importations to be subject to the rules and regulations to be enacted by the Department of Finance.

The capital invested in the exploitation of petroleum or gaseous carburets of hydrogen will be free for ten years from all federal taxation, with the exception of the stamp tax.

All the products of the exploitation will be entitled to a similar exemption until they become the property of third parties.

The first persons who, in any State or in the territories of Tepic of Lower California, discover deposits or wells of petroleum or gaseous carburets of hydrogen, provided that each well yields at least 2,000 liters every twenty-four hours, will be privileged in such form that for a diameter centering at the well where the original discovery was made and varying in length in proportion to the capital invested in the discovery and other expenses incidental to the commencement of exploitation, no other person will be entitled to bore prospect wells or to exploit the same products. The length of the diameter within which this privilege is to be enjoyed can not exceed 3 kilometers (1.8 miles) and shall be fixed in each case by the Department of Fomento, in accordance with the rules of practice that are to be issued.

The privilege alluded to in the foregoing section will hold good for a length of time proportionate to the capital invested in the discovery of the deposit or well of petroleum and in the expenses incidental to the commencement of the exploitation. The duration in question shall not exceed ten years and shall be fixed in each case by the Department of Fomento, in accordance with the regulations mentioned in the foregoing section.

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STANDARD GAUGE FOR THE MEXICAN NATIONAL RAILROAD.

I am informed that the Mexican National Railroad Company has decided to make a standard-gauge road of its entire system, and that work in that direction has already commenced. The Mexican National is one of the oldest and best-equipped roads in this Republic. It is narrow gauge, but has all the comforts common to first-class railways. The road is principally owned by American capitalists, has American managers and American railroad men in nearly all the responsible posts, and is essentially modern.

The National runs from Corpus Christi, Tex., to the City of Mexico, passing through a rich part of the country and reaching many of the most important cities of the Republic. Its through trains from Mexico connect at Laredo, Tex., with the International and Great Northern for St. Louis and all points in the United States, there being only one change of sleeping cars from St. Louis, Mo., to Mexico City. It is understood that the National will shortly build a line from Brownsville, Tex., to Monterey, connecting here with the main line. The building of this branch will undoubtedly benefit southwestern Texas, and will open up a new country between Matamoros, Mexico, and Monterey. I understand that $13,000,000 gold has been provided for the widening of the gauge and for making improvements. It is probable that the greater part of the new equipment will be purchased in the United States.

PHILIP C. HANNA,
Consul-General.

MONTEREY, *January 11, 1902.*

UNITED STATES SHOES IN MEXICO.

Shoes of United States manufacture are popular among the better class of people of Monterey and in the northern part of Mexico. There are several large shoe stores in this city which handle almost nothing but American shoes, and they are sold in nearly all the dry-goods establishments. I am not aware that any other country ships shoes to this part of Mexico. In many shop windows one can see the sign "American shoes for sale." A very good class of foot wear is demanded by the better class of Mexicans. Shoes with sharp points seem to be more popular than those with wide toes. The Mexican duty on shoes, boots, and slippers ranges from 15 cents to

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$2.50 Mexican (6 cents to $1.17 gold*) per pair, according to class and material. The weight is taken into consideration, as well as the material. It is quite common to receive shoes from the United States through the mail, the receiver paying the duty at the post-office.

PHILIP C. HANNA,
Consul-General.

MONTEREY, *January 21, 1902.*

Under date of February 4, 1902, Mr. Hanna adds that the new Mexican tariff† increases considerably the duty on shoes and other foot wear coming from the United States and other foreign countries. For instance, 35 cents Mexican (16.4 cents gold*) has been added to the duty on each pair of high tops, making the duty now $1.25 (58.7 cents) per pair, instead of 90 cents (42.3 cents) under the old duty. Low-cut shoes were 75 cents (36.2 cents) per pair and now are $1 Mexican (47 cents).

SHOE TRADE OF ECUADOR.

Consul-General De Leon sends from Guayaquil, December 12, 1901, a report on the shoe trade of Ecuador,‡ as follows:

A limited demand exists among the better class for American shoes. The natives, however, wear either no shoes or those made from native leather. The French style of shoe—that is, narrow sole, pointed toe, broad, projecting uppers, and high instep—is the shape preferred. Shoes for women are imported chiefly from France. The following table gives the approximate values of imports of leather, etc., into Ecuador for the year 1900:

Country.	Shoe leather.	Shoes.	Shoemakers' supplies.
Great Britain	$3,850	$14,850	.....
Germany	32,000	4,900	$850
France	22,300	10,700	350
Spain	.....	3,500	.....
Italy	.....	500	.....
United States	2,200	9,850	500
All other	1,000	2,000	.....
Total	61,350	46,300	1,700

*At present rate of exchange.

†See ADVANCE SHEETS No. 1205 (December 4, 1901); CONSULAR REPORTS No. 257.

‡In reply to inquiries by the Board of Trade of Lynn, Mass., which has received advance copy.

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There is no market for shoe machinery, as there are no factories in Ecuador, and only a limited one for general supplies. Probably not over 20 per cent of the people are able to buy shoes.

In Quito, where labor is cheap, the current retail prices are as follows:

	Sucres.	
Men's shoes, native leather (ordinary)	5 to 6	=$2.43 to $2.81
Women's shoes, native leather (ordinary)	2 to 5	= .97 to 2.43

Shoes of better grade cost several sucres* more. On the coast, where labor is dearer, the prices are:

	Sucres.	
Men's shoes, native leather (ordinary)	7.00 to 8.00	=$3.40 to $3.88
Women's shoes, native leather (ordinary)	2.50 to 5.00	= 1.21 to 2.43
Men's shoes, imported leather (ordinary)	10.00 to 12.00	= 4.86 to 5.83

Dealers sell the American shoe which would retail in New York for $1.75 gold at 12 sucres ($5.83).

It might be advantageous to establish a retail depot in Guayaquil, with a salesman to travel in the interior. The store could carry such stock as might be deemed advisable, embracing everything in the leather line and dealing in one or two other staple articles, such as hats. In material and workmanship, United States goods are at no disadvantage; the reasons for the larger share of trade enjoyed by European countries are that they have a better knowledge of local requirements, give longer credits, and cultivate relations with importers. The statistics of the last four years show that the United States has only 20 to 25 per cent of this trade.

Duties are levied on weight and not ad valorem, being 1 sucre (48.6 cents) per kilogram (2.2 pounds) gross weight; other charges and expenses from ship to store increase the total to 2.25 sucres ($1.09) per kilogram. Freight rates can be obtained at the offices of the following:

Panama Railroad Steamship Company, New York.
W. R. Grace & Co., New York.
Flint & Eddy, and American Trading Company, New York.
Kosmos Line Agency, San Francisco.
Pacific Steam Navigation Company, San Francisco.
Cia. Sud Americana de Vapores, San Francisco.

Only two houses here, R. B. Jones and Gonzalez Rubio, retailers, deal in American shoes, although some wholesalers may carry them.

* 1 sucre=48.6 cents.

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CATALOGUES AND SAMPLES REQUESTED FOR PERU.

I am in receipt of the following letter, dated January 11, 1902, from Eduardo Higginson, the Peruvian consul at this port:

I take pleasure in addressing you to request your attention to the inclosed notices, which have been sent me by the national societies of agriculture and mining of Lima. They state that bureaus of information have been established at Lima, and request catalogues, price lists, circulars, and small samples relating to machinery, implements, and light goods, to enable the members of both societies to select modern goods for developing the agricultural and mining industries; therefore, I beg you to make these facts known to your Government, so that the enterprising manufacturers and merchants of the United States will send to Peru the catalogues, etc., required.

The addresses are: La Sociedad Nacional de Agricultura, Lima, Peru; La Sociedad Nacional de Mineria, Lima, Peru.

I may mention here that the chief industries in Peru are:

Agriculture.—Sugar cane, cotton, wool, rice, vines, cattle, coffee, cocoa, coca, olives, potatoes, silkworms, and cereals.

Mining.—Gold, silver, copper, petroleum, quicksilver, borax, salt, coal, sulphur, etc.

In an interview with Mr. Higginson, since the receipt of his letter, I learn that these societies have duties beyond those of our boards of trade and chambers of commerce. They study the catalogues or machinery to find what is best adapted to the use of Peru, and on their recommendations the Government or the people purchase. I inclose copies of the requests of the two societies.*

JOHN E. HOPLEY,
Consul.

SOUTHAMPTON, *January 15, 1902.*

LABOR DISTURBANCES IN CHILE.

Since the 24th of December, 1901, there have been no shipments of nitrate of soda from this port, on account of a "lockout" on the part of the exporters. The several labor societies have organized into a union, and have been making demands of first one exporting house and then another. On the 20th of December, the brakemen on the Nitrate Railway demanded eight hours' work with ten hours' pay, and extra pay for overtime. The railway company refused to comply, and put new men in their places. The union refused to unload the cars of nitrate at the warehouses unless the brakemen were restored to their places. On the 24th of December, the exporters notified the workmen that no more nitrate would be shipped till the

* Filed for reference in the Bureau of Foreign Commerce.

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cars were unloaded. The workmen refused to unload the cars and were locked out.

Neither side seem to be disposed to yield. The merchants have sent to the south for men to take the place of the others. There have been no disturbances yet, but there will no doubt be when the new men arrive.

The nitrate ports to the north are still working, though it is reported that they, too, will cease till this question is settled.

CHARLES S. WINANS,

IQUIQUE, *January 7, 1902.* *Consul.*

ARGENTINE-CHILEAN BOUNDARY.

Under date of December 26, 1901, Minister Wilson, of Santiago, reports the progress of negotiations relative to the boundary between Chile and Argentina. He says:

The conference of December 17 between the Chilean Minister of Foreign Relations and the Argentine minister in Chile resulted in an absolute disagreement relative to the occupation by Chilean police of districts inhabited by Chilean citizens, but within the limits of the disputed territory. Further efforts were made, however, to adjust matters in an amicable way, and the time between the 17th instant and the 21st instant was spent in exchanging telegrams and notes, but without reaching an agreement. Upon the 21st instant, the Argentine minister notified the Chilean Minister of Foreign Relations that he felt that the resources of diplomacy had been exhausted, and that, as it appeared that he was unable to contribute in any way to the solution of the differences, he would avail himself of a leave of absence and retire to his own country, leaving the legation in charge of the secretary thereof. Upon the following day, he made a formal farewell visit to the President and to all the diplomatic corps. News of this action soon reached the public, producing considerable excitement. The retirement of the Argentine minister produced a very awkward situation, as all the negotiations had been carried on here; but the Chilean Minister of Foreign Relations immediately entered into direct communication with the Argentine Government, through the Chilean minister in Buenos Ayres, and upon the 24th the Argentine minister was instructed to remain at his post, pending the result of the new turn which had been given to the negotiations.

Upon the 25th, the Argentine minister and the Chilean Minister of Foreign Relations met at the house of the President (the department being closed) and, after some discussion, signed the protocols, copies and translations of which are inclosed, thus bringing to an

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end a controversy, which has occupied the attention of both Governments for two months and which has caused damage to both countries in the unsettling of business and the disturbance of values.

As will be seen from the protocols referred to, the question of the roads has been terminated by a declaration of the Chilean Minister of Foreign Relations that the said roads were opened up simply for the purpose of studying the disputed territory, without admitting any act that might mean an occupation of the region through which the arbitrator will have to draw the boundary line between the two countries. The question of the Seno de la Ultima Esperanza has been terminated by an agreement on the part of both Governments to maintain the situation which existed between the two countries on September 22, 1898, the respective Governments to give immediate orders for the withdrawal of the Argentine and Chilean police from the region mentioned.

The protocols (translated) read:

PROTOCOL BETWEEN CHILE AND ARGENTINA REGARDING THE SENO DE LA ULTIMA ESPERANZA.

At a meeting held in the Department of Foreign Relations of Chile, between the minister of the department, Don Eliodoro Yañez, and the envoy extraordinary and minister plenipotentiary of the Argentine Republic, Don Epifanio Portela, in connection with the incidents which occured in the Seno de la Ultima Esperanza within the limits of the lines of the experts, and after an exchange of ideas, both parties being guided by the desire to come to an amicable conclusion, it was agreed: To maintain the situation which existed between the two countries on September 22, 1898 (on which date it was resolved to submit to the decision of Her British Majesty's Government the differences of opinion between the experts and the Governments), and to maintain the same until the said decision is given. The respective Governments, therefore, will at once give orders for both Argentine and Chilean police to be withdrawn from the region mentioned. The incident was accordingly considered as terminated. The ministers furthermore agreed, for the purpose of complying with the desire of both Governments to maintain the cordial relations which the two countries have in view, to continue the negotiations with the object of regulating the police service which it may be necessary to establish in some of the districts comprised within the lines of the two experts, it being understood that any differences which may arise shall be submitted to His British Majesty as incidents of the question now pending for arbitration, in order that they may be promptly and conclusively decided.

In witness whereof, the undersigned have subscribed these presents in duplicate, in Santiago, on the 25th day of December, 1901.

ELIODORO YAÑEZ.
EPIFANIO PORTELA.

PROTOCOL BETWEEN CHILE AND ARGENTINA REGARDING ROADS IN THE DISPUTED TERRITORY.

At a meeting held in the Department of Foreign Relations of Chile between the minister of the department, Señor Don Eliodoro Yañez, and the envoy extraordinary and minister plenipotentiary of the Argentine Republic, Señor Don Epifanio Portela, in connection with the claim made by the Argentine Government based on the works executed by the boundary commission described in the communication

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of the Chilean expert, and inserted in the last memorial of the Department of Foreign Relations, the minister of the department explained that the said works had been executed in exercise of the right of boundary commissions, to open up roads in order to explore the territory, the limits of which are being fixed, and to study the lines proposed by the experts; but the minister of the Argentine Republic having affirmed that, according to information in the possession of his Government, the said works might be considered as foreign to such purposes, the Minister of Foreign Relations, desirous of adhering strictly to the treaties at present in force, declared that the intention of his Government had been to study those regions, and in that sense only had authorized the works mentioned, but he did not admit any act that might mean an occupation of the territory through which the arbitrator will have to draw the boundary line between the two countries. The incident was accordingly considered as terminated. The ministers furthermore agreed, for the purpose of complying with the desire of both Governments to maintain the cordial relations which the two countries have in view, to continue the negotiations with the object of regulating the rights of the boundary commissions for the execution of any new work which they may think it advisable to undertake, it being understood that any differences which may arise shall be submitted to His British Majesty as incidents of the question now pending for arbitration, in order that they may be promptly and conclusively decided.

ELIODORO YAÑEZ.
EPIFANIO PORTELA.

SETTLEMENT OF BOLIVIA-BRAZIL BOUNDARY LINE.

I transmit a communication from Hon. Florian Zambrano, high commissioner and financial agent of the Bolivian Government, in answer to questions submitted by me in regard to the resources of the territory acquired by Bolivia by the adjudication of the boundary line. The report of the commission will be published in Europe in February, 1902.

When the extent and value of the lands transferred to Bolivia are considered, together with the desire on the part of the Bolivian Government to encourage colonization by means of subsidies, land grants, exemption from duties and taxes, and other special privileges, the importance of the decision of the commission may be approximated.

The final adjudication of the boundary dispute between Bolivia, Peru, and Brazil, with the formal relinquishment of the thousands of square miles of land involved to the two first-mentioned countries, may mark the beginning of a new era in this part of South America. The territory under dispute, with the adjacent regions in the Andes Mountains, is said to be very rich, and Americans should not permit the people of any other nation to anticipate them in the exploitation of this field.

The cession of this land will deprive the Brazilian State of Amazonas of a large portion of the revenue which it derived from export duties on rubber, as much of the rubber from the Acre, Purus,

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Javary, and other rivers embraced in the territory ceded to Bolivia has hitherto passed through the Manaos custom-house, but will now pay toll to Bolivia.

On the other hand, Para will profit indirectly by the new conditions, as all cargoes entering and leaving the Amazon pass through this port.

K. K. KENNEDAY,
Consul.

PARA, *December 20, 1901.*

CONCESSIONS TO CAPITALISTS AND COLONIZERS.

[Commissioner Zambrano to Consul Kenneday.—Translation.]

Regarding the questions you have put to me concerning trade, production, navigation, etc., in the territories belonging to Bolivia on the Acre River, I take pleasure in giving you the following information:

(1) The Government of Bolivia grants large tracts of uncultivated land to capitalists who intend to colonize our territories; admits free of duty and other taxes all machinery, factories, tools, agricultural implements, etc.; and protects and guarantees the personal safety, work, and property of all foreigners. There is not a single instance of a diplomatic claim against Bolivia on account of damage, violence, or injury to foreign subjects.

(2) In the high region, or rather the plateau of the Andes Mountains (La Paz, Oruru, Potosi), there are rich mineral deposits, such as silver, lead, copper, and gold.

In the middle region—that is, in the valleys (Cochibamba, Sucra, Itarija)—wheat is cultivated and also the best indian corn, potatoes, grapes, etc.

On the great eastern and northwestern plains (Santa Cruz and Beni), coffee, cocoa, sugar cane, and many other tropical products are cultivated, and rubber, vanilla, copaiba, etc., are extracted. There are also many gold mines and placers of incalculable richness which have been worked for centuries.

On the plains of the Departments of Beni and Santa Cruz there are large numbers of cattle, the maximum cost of which is £1 per head there, instead of £30 to £40 per head in Para and Manaos.

(3) The rivers which the treaty with Brazil now incorporates into Bolivia are the Acre and Yacu and their affluents; the Upper Purus and Upper Jurua and their affluents (the Enviri, Tarahauca, Mua, Gregorio, etc.).

Up to the present time, Bolivia's occupation of this territory has been confined to the Acre and its affluents, where the custom-house of Puerto Alonso is established. The rubber exported from the Acre and its affluents alone reaches 3,500 tons per annum. The total export of rubber from the other rivers just named amounts to another 5,000 tons per annum, and is increasing yearly. This rubber is of the first quality, and is sold in European markets at the same price as, and under the name of, fine Para rubber.

(4) I am told that many rubber planters from the Acre wish to sell their plantations. One of them—the most important, Mr. Antonio Leite—offers his estancia, "Humaita," on conditions that may be agreed upon personally, as he is now in Para. I do not know the price or value those estancias have.

(5) Up to the present moment, fifteen steamers, with an average capacity of 200 tons each, have left Para and Manaos for the Acre, all of them to return next February laden with rubber. It is estimated that as many steamers are also plying up the Purus and Jurua rivers.

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(6) The Government of Bolivia has decided to establish and subsidize a line of foreign steamers to ply between European ports and Para. On arrival here, the cargoes are to be transferred and sent to the Acre in smaller steamers of the same company.

Up to this time, there is no contract for this project, and the Bolivian Government is disposed to accept the best proposal which may be presented. The undersigned, in his capacity as financial agent, has authority to receive and examine such proposals and forward them to his Government with such recommendation as he may deem wise.

(7) The private opinion of the undersigned is that the Bolivian Government is prepared to execute without delay a contract with some large syndicate for transportation, colonization, and the construction of railroads, custom-houses, and other public improvements, both to increase the commercial and industrial development of that exceedingly rich region and to join the new territory to the interior settlements of Bolivia. For the latter purpose, the most important work is the construction of a railroad from the Acre to the Beni or the Madre de Dios River, the plans for which are already made and the cost estimated.

RUBBER OUTPUT OF THE AMAZON VALLEY.

At the close of the calendar year 1901 it is found that the receipts of rubber at this port (Para) are nearly 30 per cent greater than ever before at this season. This fact has been made the basis for many calculations concerning the total output of rubber from this valley and its effect upon the commercial future of Para.

The largest rubber buyers and exporters are still chary of expressing opinions as to the season's crop, and are conservative in their dealings. Some hold that the bulk of the crop is already marketed, and that the months of January, February, and March, when the heaviest shipments are usually received, will show a very large deficit.

On the other hand, information recently received shows a diametrically opposite state of affairs. Business was good in the previous year, exchange low, and credits easy. The aviadores and laborers indulged in many luxuries; they bought better food than usual, and treated themselves to watches, jewelry, and expensive clothing. The end of the season found the crisis at hand, exchange rising rapidly, the gatherers deeply in debt, and the price of rubber reduced 20 per cent. This year they are making a desperate effort to pay off this indebtedness and make a fresh start. They are getting a large proportion of their food from the streams and forests by hunting and fishing; they are purchasing only absolute necessities; and are working overtime to increase the crop and liquidate their bills.

It is reported that there are now on the way down the river, from the upper tributaries of the Amazon, about 700 tons more rubber than has ever before been shipped from that section in one season, and

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there are at least 200 tons more to follow. About thirty small steamers and launches have left this port and Manaos for the Acre, Jurua, Purus, and Beni rivers, and are due to return here in February. It is not to be supposed that they will come back empty.

Altogether, there is reason to believe that this season's rubber crop will exceed that of last year by a very considerable margin.

K. K. KENNEDAY,
Consul.

PARA, *December 27, 1901.*

BRAZILIAN RUBBER TRADE IN 1901.

Consul Kenneday sends from Para, January 13, 1902, statement of rubber shipments from the Amazon Valley for 1901, compiled from custom-house records. The consul says:

The shipments from Para for 1901 show a steady increase over the business of 1900, the total gain being 3,255 tons, of which the increase to Europe was 500 tons and to the United States 2,755 tons. In other words, Europe took 14,254 tons of rubber from the Amazon in 1900 and the United States 12,621 tons during the same time; but during 1901, Europe took but 14,755 tons while the United States took 15,376 tons.

Another significant feature shown by these statistics is the enormous growth of the rubber trade at Manaos, amounting to almost 100 per cent. During the year 1900, there were shipped a total of 8,012 tons of rubber from Manaos and 18,467 tons from Para. During the year just closed, however, Manaos shipped 15,469 tons and Para but 13,639 tons. This change was caused by the passage of a law in January, 1900, enacting that thereafter all rubber extracted in the State of Amazonas, and all other products of that State, should be shipped direct from Manaos. A large portion of this rubber had formerly been sent from Para.

Another feature of these statistics is the large increase in shipments from Iquitos. During the year 1900, Iquitos shipped 920 tons of rubber direct, and in 1901, 1,391 tons, a gain of more than 50 per cent. Next year will probably witness a still greater gain, and within a few years the Upper Amazon and its affluents may produce as much rubber as the lower river.

Exports from Para and Manaos in 1901.

State.	Europe.	United States.	Total.
	Tons.	*Tons.*	*Tons.*
Para	14,755.097	15,376.758	30,131.855
Manaos	7,336.846	8,132.549	15,469.395
Total			45,601.25

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TRADE CONDITIONS IN NICARAGUA.

During the last six months there has been a large decrease in the importation of flour, wine, and machinery from the United States.

There has also been a large decrease in the exportation of coffee—the principal crop of export—owing to the bad crop of last year. This, rather than the competition of any other country, is the cause of the diminished importations of the articles above named. There has been no perceptible change in the importations or exportations of other articles, with the exception of sugar.*

Exchange on the United States, which has averaged during this period about 300 per cent premium, and the hard times caused by short crops have made it necessary to economize; and as most of the machinery imported into the country is for cleaning and improving coffee, the planters have stopped importing until they get a good crop.

Flour, as well as wine, is considered by a large majority of the population a luxury and not the staff of life. The natives readily subsist on plantains, rice, beans, and tortillas (cakes made of corn) and drink rum made from sugar cane. They eat bread made of wheat flour and drink wine only when they are doing a prosperous business. Nicaragua generally produces about half the quantity of rice consumed in the country, but this year, owing to a short crop at home, the importation of this, one of the principal articles of diet, has slightly increased. Most of the beans and all the corn consumed are raised in the country.

Kerosene oil, which is still the only material used for lighting houses or streets, and other necessary articles have been imported in about the same quantities as last year.

CHESTER DONALDSON,

MANAGUA, *December 16, 1901.* *Consul.*

ELECTRIC-LIGHT PLANTS IN NICARAGUA.

The Government of Nicaragua has granted to Mr. T. M. Solomon, an American citizen, and Mr. J. Santos Ramírez, a Nicaraguan, a concession for installing electric-light systems at Managua, Masaya, Granada, and Leon.

Managua is to be the first city lighted. The motive power is to be steam. Meanwhile, the concessionnaires will construct a dam

*See "Sugar production in Nicaragua," published in CONSULAR REPORTS No. 258 (March, 1902), p. 447.

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to utilize the water power of Tipitapa Falls, where a plantsufficient to supply the needs of the first three cities will be erected. The steam plant at Managua will then be moved to Leon.

It has been decided that by constructing a dam about 5 feet high at the edge of Tipitapa Falls, Lake Managua (of which the Tipitapa River is the outlet) can be maintained at a sufficiently high level to always give an ample supply of water for the power required. Mr. Warren B. Reed, the concessionnaires' electrical engineer, calculates that by raising the lake 1 foot more than its annual evaporation, about 20,000,000,000 cubic feet of water will be secured; and that by placing the power house about 500 yards below the falls, at the foot of the rapids, a fall of 18 feet will be obtained, which will give sufficient power to run the plant for four consecutive years, even if there should be no rain during that time.

The Government has also granted Messrs. Solomon & Ramírez exemption from import duties on all materials to be used in the enterprise and on provisions and clothing for their employees.

The contract provides the following rates for each light installed:

Description.	Rate.	
	Pesos.	
One 16-candlepower	6.50	*$1.85
1 button and switch	3.00	.85
100 feet of wire	18.50	5.28
Monthly charge	3.00	.85

*Value in United States gold at present rate of exchange.

Bids are being received for the posts, and machinery has already been ordered from the United States.

The plant is to be in working order within six months from date.

CHESTER DONALDSON,

MANAGUA, *December 28, 1901.* *Consul.*

DEVELOPMENT OF UNITED STATES TRADE WITH CANADA.

Old established exporting houses are familiar with the difficulties which beset the shipper to foreign countries. They know the peculiarities of the different peoples, just when to approach a particular market, how to meet the demands of the customs authorities, how to pack and mark their goods, etc.; but if the character of the inquiries which are received at this consulate is any indication, there are numerous individuals and firms at home that have outgrown the limits of their domestic trade and are desirous of

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cultivating new fields as an outlet for their surplus products. Naturally, they turn first to Canada as the nearest and most accessible market in which to commence operations. To such firms and individuals, a few hints on the Canadian market and how to reach it may prove acceptable.

First of all, it should be understood that the nearness of Canada to the United States does not render it any the less foreign in matters pertaining to trade, and it takes energy and tact to successfully invade it commercially. The Canadian people naturally regard with a jealous eye all encroachments upon their own field, and no doubt would buy fewer goods from the United States did not the excellence of quality and design of our wares commend them above similar articles of Canadian or English manufacture.

There is no more prejudice against American goods than there is against the manufactures of any other foreign country, but they must have some superior merit before they will readily attract the attention of the Canadian dealer. The Canadian people generally buy the best quality of goods, and if the superior article chances to be American they do not hesitate to purchase on this account. The style and quality of our boots and shoes and the excellence of our shelf hardware, our hats and caps, silver-plated ware and jewelry, drugs, harvesting machinery, etc., have placed them beyond competition in many markets of the world; and it behooves our manufacturers in other lines to follow this example and send abroad nothing but the best.

COMMERCIAL TRAVELERS.

No doubt the most successful way to gain a foothold in a foreign market is to make a seasonable exhibit of the product to be exported, and this can best be done through active, up-to-date traveling salesmen. It is noticeable that many of our dealers are either too late or too early to "strike the trade," and, as a consequence, their salesmen return without orders. This is an important matter where most goods are purchased by sample, where competition is keen, and where the English salesman is constantly watching for the least opening. Heavy dry-goods dealers and others who buy extensively in the English market make semiannual trips to London to replenish their stock. They usually go abroad during the holidays to make their spring and summer purchases, and again in July to obtain their fall and winter supplies; hence, the time to approach such dealers is just before they start on these trips.

As to salesmen's samples, the customs laws of the Dominion make marketable samples dutiable, and this, I dare say, deters many from seeking trade in this territory. But this disadvantage may be

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easily overcome, either by sending only piece samples of no commercial value or by sending a full line of marketable samples and paying the duty, afterwards disposing of them to the retail trade. This method is resorted to by a large number of traveling men, many of whom are very successful in their trips through the Dominion.

CUSTOMS-TARIFF REGULATIONS.

Custom-houses are maintained not only in every county, but in every town and city of any importance, and goods shipped from any point in the United States are transported in bond, after reaching the border, to the custom-house nearest the point of destination. There the proper entry is made and the duty paid. This system necessitates great care in marking and numbering boxes and crates, which should be numbered in series, so that, if it is desired to take any one box out of bond, no mistakes will occur. Care should also be exercised in marking goods, to show that they are not prohibited articles. Otherwise, the shipment may be subjected to forfeiture and the shipper to a fine of $200.

The following is a copy of "Schedule C" of the tariff act of 1897, referring to prohibited goods:

SECTION 636. Books, printed paper, drawings, paintings, prints, photographs, or representations of any kind of a treasonable or seditious or of an immoral or indecent character.

SEC. 637. Reprints of Canadian copyright works, and reprints of British copyright works which have been copyrighted in Canada also.

SEC. 638. Coin, base or counterfeit.

SEC. 639. Oleomargarine, butterine, or other similar substitute for butter.

SEC. 640. Tea adulterated with spurious leaf or with exhausted leaves, or containing so great an admixture of chemical or other deleterious substances as to make it unfit for use.

SEC. 641. Goods manufactured or produced wholly or in part by prison labor, or which have been made within or in connection with any prison, jail, or penitentiary; also, goods similar in character to those produced in such institutions when sold or offered for sale by any person, firm, or corporation having a contract for the manufacture of such articles in such institutions, or by any agent of such person, firm, or corporation, or when such goods were originally purchased from or transferred by any such contractor.

Another matter of importance to shippers which should be generally known, but unfortunately is not, is the fact that American goods or products may be returned to the United States free of duty; hence, should a shipment to Canada prove in any way unsatisfactory, it could be returned without paying the usual customs charges, upon the declaration of the shipper that the articles in question originated in the United States. The terms of sale should cover whatever expense may be attached to the return of the goods, and name the

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person, whether the buyer or seller, who is to pay same, thus avoiding any misunderstanding.

TRADE OPENINGS.

This city is developing a considerable trade with the Northwest Territories, British Columbia, and the Yukon country. These are new and promising fields, and, since this city is easily reached, it might be well for our eastern manufacturers and dealers who do not maintain branch houses on the Pacific coast to gain access to these new markets through shippers and dealers here.

Fire and paving bricks of good quality are not manufactured in the Dominion, owing to a lack of suitable clay. I see no reason why a profitable trade might not be established in this line, since it is a matter of daily consideration on the part of the cities and towns of this Province how to replace the old cedar-block pavement, which has proved so unsatisfactory.

There is also a market here for hard-wood lumber, especially white ash, plain and quartered oak, and hickory.

HENRY S. CULVER,

LONDON, ONTARIO, *January 7, 1902.* *Consul.*

MINERAL PRODUCTION OF BRITISH COLUMBIA.

An advance report made by the provincial mineralogist of British Columbia has just been issued, giving an approximate estimate of the mineral production of the Province for the year 1901. The estimate is based upon the actual returns of most of the mines, and for those mines from which returns have not been received it is based upon their approximate output for the past year. They are not given as the final statistics, which can not be made up till about April 1. In calculating the value of the products, the average price for the year in the New York metal market has been used as a basis. Roughly speaking, the increase over 1900 is 25 per cent on gross value of output of the Province. There has been an increase in the production of all except placer gold and lead. The tonnage of ore mined from lode mines has increased a little more than 57 per cent. The gross value of the copper output has increased 206 per cent over 1900, the gain being largely in Vancouver Island mines, which have greatly developed the past year. The lode-gold output has increased 36 per cent and silver 14 per cent. The official figures are as follows:

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Mineral production of British Columbia.

Mineral.	1900.		1901 (estimated).	
	Quantity.	Value.	Quantity.	Value.
Gold:				
Placer ..... ounces...	63,936	$1,278,724	43,204	$892,500
Lode ..... do.....	167,153	3,453,381	227,696	4,704,200
Silver ..... do.....	3,958,175	12,309,200	4,685,718	2,624,002
Copper ..... pounds...	9,997,080	1,625,289	30,736,798	4,951,698
Lead ..... do.....	63,358,621	2,691,887	50,529,260	1,970,641
Coal ..... tons (2,240 pounds)...	1,439,595	4,318,785	1,529,210	4,587,630
Coke ..... do.....	85,149	425,745	134,760	673,800
Other materials	.....	251,740	.....	309,030
Total	.....	16,344,751	.....	20,713,501

MINERS' WAGES.

It might be proper in this connection to give the current daily wages paid miners in British Columbia the past year.

Wages in the Crow's Nest mines.

Average daily underground miners	$3.50
Laborers:	
Underground	2.25
Above ground	2.00
Mechanics and skilled laborers (above ground)	3.00
Boys:	
Underground	1.00
Above ground	.75

Wages in the Nanaimo colliery.

White miners	$3.00 to $4.50
Laborers:	
Underground	2.50 to 3.50
Above ground	2.50
Mechanics and skilled laborers	3.00 to 4.00
Boys:	
Underground	1.00 to 2.00
Above ground	1.00 to 1.50
Chinese (above ground)	1.125 to 1.25

Wages in the metalliferous mines.

Miners	$3.00 to $3.50
Helpers	2.00 to 2.50
Laborers	2.00 to 2.50
Blacksmiths and mechanics	3.00 to 5.00

ABRAHAM E. SMITH,
Consul.

VICTORIA, *January 22, 1902.*

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NAVIGATION OF THE TANANA, ALASKA.

I have to report that the steamer *Lavelle Young*, of Portland, Oregon (506.24 tons, carrying a cargo of general merchandise of 150 tons and drawing 4 feet of water), entered the Tanana River August 18, 1901. The mouth of the river is about 2 miles wide, and is almost closed by a continuous sand bar. A channel with 4½ feet of water was found, and no difficulty was experienced after passing the entrance. The current runs about 3 miles an hour, and after crossing a wide flat of 3 miles, intersected by numerous sand bars, with 5 feet of water in the channel, the vessel entered a good river running through a comparatively level country. From 5 to 6 feet of water was found on the worst crossings, as the channel ran from one side of the river bottom to the other; after the first 100 miles, the current increased an average of 2 miles an hour for each succeeding 100 miles. The river has many islands and sand bars, causing the water to divide into numerous channels, somewhat like the Yukon between Fort Hamilton and Circle City.

The lower end of Bates Rapids, 300 miles from the Yukon, where the Chenoa River enters the Tanana, was reached in three and a half days. The destination was a point on the main river 180 miles above the rapids, where the Valdes trail crosses the Tanana; but after ascending 10 miles of shallow water, the boat grounded in 3½ feet, and no channel could be found with water enough to continue.

The boat then returned to the Chenoa River and steamed up that stream 25 miles, finding at the shallowest points 4 feet of water. A landing was made on a high bank, where plenty of good spruce timber was found for building purposes, and after a delay of two days the cargo was unloaded and the boat returned to the Yukon.

Sixty miles from the mouth of the Tanana, Baker Creek enters; 20 miles above that point, the Cantitna comes in; 6 miles farther, the Fulvanna River; and 214 miles from that point, the Chenoa River. All of these streams are navigable for small steamers from 50 to 100 miles.

Indian camps are found at different points along the main river. The channel, except at the upper end of the river, flows through a wide valley, with snowy mountains in the distance.

An experienced miner in the party states that "the country has all the appearance of rich mineral deposits."

The *Lavelle Young* is the only boat of any size that has attempted to navigate the Tanana, though small steamers have been engaged for several years in towing logs to the sawmill at Fort Gibbons.

H. TE ROLLER,
Vice-Consul.

DAWSON CITY, *December 10, 1901.*

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IRON MINES IN SIBERIA.

The industrial development of Siberia is largely dependent upon her production of coal and iron, especially the latter, and the following data from an official report show that Russia's huge northern provinces do not lack rich deposits of this metal.

Of the numerous iron-ore mines in the Urals, the largest are, first, the Komaroff mine, containing 1,600,000,000 tons of 50 per cent brown hematite; and, second, the Magnithaya Gora mine, which has not yet been fully developed, but is claimed to be the largest mass of magnetite in Russia, if not in the world. Among other rich mines in the southern Urals are the Baikal mines, which are believed to contain 5,000,000 tons of ore in the portions belonging to the Government, and 16,000,000 tons in that owned by the Simsky works; and the Elnitchi mines, near Baikal, in which about 1,000,000 tons of ore have been discovered. It is claimed that the latter group of mines, lying to the south of the Tcheliabinsk-Ufa branch of the Siberian Railway, will yield 2,400,000,000 tons of iron ore. The Vyoskaya Gora, Mount Blagodat, and Sindrsky mines are to the north of the same railway. Engineers report that the first contains 16,000,000 tons; the ore in the second was estimated at 6,400,000 tons when first examined, but upon reexamination was found to amount to 13,000,000 tons. No definite estimate was made concerning the last mine, as it abounds in pockets which sometimes come to an abrupt termination. It is claimed that the Ural mines are capable of producing 24,000,000 tons of ore, or about 10,000,000 tons of pig iron, per annum for the next century; but as this quantity of ore can scarcely be worked, even with the additional coal from the Ekibaz-Tuza and Sudjenka mines, the more conservative engineers reckon the output at 5,000,000 tons a year, at which rate the ore in sight will last two hundred years.

W. R. Holloway,
Consul-General.

St. Petersburg, *December 31, 1901.*

GOLD MINES NEAR PORT ARTHUR.

The report of M. C. Bogdanovitch, a Government mining engineer, who has spent three years in examining the coast of the Okhotsk Sea—especially in the southern part of the peninsula of Liao-Tung—has just been published in the twentieth volume of the Elements to the Geology of Russia. Mr. Bogdanovitch found gold in the mass of rock at Liao-Te-Chan, in the vicinity of Port Arthur, near the Bay of Siao-Pin-Dao, near the lake of Hon-Tsa-Pao-Tis, near the

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temple of Tcheou-Tsia-Town, in the basin of Lema-San-He, and a gold mine with veins near the village of Tundsia-Pei-Ho, as well as other mines of less importance. He is of the opinion that there are veins of gold in the sides of Golden Mountains, near Port Arthur, but has formed no definite opinion as to the existence of gold near the Bay of Siao-Pin-Dao. The mines near Lake Hon-Tsa-Pao-Tsi seem to be poor.

Between the temple of Tonhon-Din-Miao and the village of Tian-Tsi-Town, Mr. Bogdanovitch found that gold sands had been worked in a primitive way by the natives, and the washing of 500 poods (18,056 pounds) of sand in his presence yielded 1 zolotnik (0.11 ounce) of gold per 100 poods (3,611 pounds) of sand. The analysis of the samples proved that the nuggets contained 952 parts of gold and 36 of silver; the nuggets found in the region of Lema-San-He contained a smaller quantity of fine ore.

Mr. Bogdanovitch thinks that the veins near the village of Tundsia-Town-Pei-Ho should receive a more thorough investigation. The chemical analysis made in the laboratory of the Minister of Finance at St. Petersburg of various samples of ore from this mine shows a yield of 1 zolotnik 29 dolias (0.111 ounce) of fine gold per each 100 poods (3,611 pounds) of ore, which is sufficient to make the working of this mine very profitable; but additional reports are expected.

Among the rivers that cross the eastern watershed of Liao-Te-Chan, the most important is the Po-Tsian-Tsi, but the gold district found along this river does not seem to be sufficiently rich to pay for working. Between the mouth of the river and the temple of Tchin-Tchei-Tsi, nuggets have been found weighing 12 zolotniks 75 dolias (1.321 ounces).

These nuggets, the engineer thinks, are due to the continuous action of the sea water on the rock, and the working of these mines presents no technical difficulties, though the coast is open and for that reason exposed to the action of the waves.

W. R. HOLLOWAY,
Consul-General.

ST. PETERSBURG, *January 10, 1902.*

HOW TO WIN TRADE IN SIAM.

There is neither a parcels post nor a parcels express between America and Siam. There is an efficient parcels-post system with England, and the markets of other European countries are also well connected with this country. The establishment of such a system with the United States would no doubt prove an effective means of introducing to this trade many of our smaller attractive products.

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The people here are especially appreciative of American notions and fancy goods, and a parcels-post system would greatly facilitate the introduction of such manufactures. American goods can be bought in Siam only by mail orders or through agents in no way responsible for the quality of the articles delivered. English, German, Danish, French, and Italian goods, on the other hand, can be bought by sample and through responsible agents, to whose interest it is to see that the customer is satisfied. Catalogues, price lists, and pictures are of little value to the oriental, other than for decoration. He wishes to see and handle his goods and compare them with the samples from which they were ordered before he is convinced of their merit. The house that furnishes him this opportunity will secure his trade. So long as our exporters are satisfied to compete for the trade of Siam by the use of catalogues and mail orders, or through traveling salesmen and agents other than those who are well established here and whose character and reputations are a guaranty for their undertakings, so long will they play a losing game in this market. The establishment of a good house in this city—one that can handle goods on a large scale and that can conduct in connection with it a commercial museum or sample department to which the producers of America may contribute—is the best remedy for this evil.

LETTERS AND CABLEGRAMS.

Prompt fulfillment of orders and efficient methods of packing characterize the European trade. Attention to all orders and to business correspondence can not too often be enjoined upon our exporters. At so great a distance, the possibilities of a letter being lost or miscarried are multiplied many times. Three months must be allowed for a reply, and the miscarriage of a letter means a long and exasperating delay. The firms longest in business in the Far East invariably duplicate correspondence by means of press copy. Cable messages demand instant attention; yet American dealers have been known to hold up replies to important cablegrams for a month.

PACKING GOODS FOR SHIPMENT.

Paper and pasteboard packages should never be used for goods shipped to Siam. Drugs and chemicals should be put up in tin and glass and packed in sawdust. Shavings and excelsior, however, are preferable for other articles, as sawdust often leaks badly. Too much care can not be taken in preparing fragile goods for this market. A leading firm has this to say on the subject:

> In direct contrast to American packing is the packing of Great Britain and Germany. * * * We have constantly endeavored to obtain orders for fragile goods of American manufacture, and as constantly the buyers inform us that they

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can not afford to purchase goods which are so badly packed as those arriving from America; as with only half the order arriving in a salable condition, they would be unable to meet their contracts.

The following is from a surveyor's report on electrical goods:

In goods of this kind, 5 per cent breakage can hardly be complained of or even, perhaps, prevented, except by prohibitive expense in packing. In the case in question, however, the loss is almost 50 per cent, which certainly shows great carelessness or want of knowledge on the part of the packer.

Piece goods should be packed in bales and invariably covered with waterproof material of some kind, owing to the great dampness of this climate. Each bale should also be well secured by strong iron hoops. The distance to be covered is great, and an extra hoop may save the entire package.

No special care need be taken to make cases light, as customs dues are levied on values only—not on weight. Cases should invariably be lined with tin and soldered tight whenever the contents are subject to the effects of moisture.

I quote from a surveyor's report on bicycles:

The damage done by salt water is obviously due to the fact that the cases are not tin lined. Bicycle cases should certainly be tin lined and soldered; the cost spread over five machines is small, and a rusty bicycle is practically unsalable.

CREDITS.

It is the invariable rule of American houses to demand of their Siamese customers, of whatsoever standing or connection, either cash in advance for goods ordered (which is the common practice) or cash on documents, with bank references, through local banking institutions. English and European houses, on the other hand, grant from three to six months' time on all purchases, and treat their customers of good standing in Siam with the courtesy an American expects to receive from the firms with which he deals at home.

It should be borne in mind that the import houses here are generally European, not oriental, and, if desired, business can at all times be confined entirely to other than native firms; that as a rule these houses assume any risks that may arise from dealing with the oriental merchants; and that the demand that time be allowed on all purchases grows out of the peculiar conditions of trade with these people. That the six months asked is barely sufficient to enable houses engaged in the import trade to carry on business can not be better demonstrated than by quoting from the minutes of a recent meeting of the Bangkok importing firms:

The following resolutions were carried unanimously:

That all import firms bind themselves to the following conditions:

(*a*) On arrival of goods, notice to be given to indentor to take immediate delivery, and promissory note for the value to be signed at three months' date.

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Should indentor be unable to take prompt delivery, one month's grace to be allowed, on the expiration of which a promissory note is to be signed as above, the goods then lying at indentor's risk from that date.

(*b*) Should the debtor fail to pay on date due, interest to be charged at the local bank rate of interest on secured loans, but if payment be made within one month after date when the promissory note is due, such interest to be remitted.

(*c*) Clause *b* to apply also to all promissory notes signed on and after January 1, 1901, for purchased good not indented for.

(*d*) On cash sales, not more than 3 per cent discount shall be granted for payment within one week.

No other factor in the whole problem of American trade with Siam is so detrimental to our interests as the demand in regard to payments that American houses invariably make of their customers. There is no reason why goods should not be sold on time here as well as in the United States. Banking facilities in Bangkok are as good as in any city at home; the standing of firms can be obtained on equally reliable information (through banks, etc.); and, finally, the courts in Bangkok are conducted in the same way as those in Europe and America. This is an extra-territorial country, and every nationality has jurisdiction over its own subjects. To my knowledge, there are three Americans trading in special lines in this city who prefer our goods and who have tried hard to do business with our countrymen, but these men have been driven to trade in England and in Germany, because of the treatment they have received.

The worst feature of the case is not the present loss to our commerce, but the fact that, day by day, trade is being diverted to other countries. Europe wants the trade of Siam; she is bidding for it, and she is getting it because she offers inducements which America is quite as well able to give, but does not. In this country, there are no proper warehouses. Inability to produce cash at once means exposing the goods to a dampness that can not be appreciated by those not acquainted with the Tropics and, what is far worse, to the attack of white ants—swift destroyers that can not be guarded against in this country.

A well-established American house in this city would do much to create in the United States the confidence needed for a more liberal policy on the part of our producers; but, until this is established, intelligent use of the means at hand would relieve much of this difficulty. With the same business precaution that is exercised at home, our producers can dispose of goods on time in Siam with little, if any, more risk than they are accustomed to take in America. Other business men all over the world are doing it with success; why should not the business men of the United States?

HAMILTON KING,
Consul-General.

BANGKOK, *December 12,* 1901.*

*The paragraphs of this report relating to packing and parcels post were dated December 6.

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FINANCIAL CONDITIONS IN SIAM.

The exports of Siam show a favorable balance of trade, amounting to $5,166,613 Mexican.

The revenues, as will be seen from the following table, are increasing year by year:

Year.	Receipts.	Expenditures.
1898–99	$17,697,619.80	$14,272,621.20
1899–1900	18,013,583.75	16,231,631.06
1900–1901	19,800,000.00	19,591,979.60
1901–2	21,300,000.00	22,844,574.80

With the exception of 1901–2, the expenditures have been kept well within the receipts; but if the actual receipts of this year show such an increase over the estimates as has been the case in the last one or two years, there may yet be a small surplus. However, an analysis of the facts makes rather for the financial strength of Siam than to its detriment. The estimates for the year had already been made up to show a safe surplus, when information was received that, by the award of the arbitrator in the case of George Murray Campbell vs. The Siamese Government, provision had to be made for the payment by the Government of £161,000 ($783,506); and evidence of the satisfactory condition of Siam's finances lies in the fact that on May 1 the Siamese Government cabled London that 3,927,000 ticals* would fall due on the 6th of that month, which amount was paid on demand.

The Government has recently been placing a considerable amount of the surplus funds in European securities, as a step toward building up Siam's foreign credit. Siam has no public debt, and its policy, as can be seen from the above, has been to keep the expenditures well within the receipts.

Practically all public improvements are in the hands of the Government. The opinion is gaining ground, however, that this policy is proving itself a poor one financially, at least for this little Kingdom, and a change may be looked for in the future.

An effort is being made to abolish the system of taxing gambling houses. Some sixty or seventy of these houses have been closed during the past eighteen months. In some of the provinces, gambling is now illegal. A positive move in this direction is the pawnshop ordinance, recently passed, by which these shops are brought under Government control, thus making theft less remunerative and

*1 tical=30 cents gold.

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indirectly decreasing the number of the gambling houses that were able to thrive upon the proceeds of theft. The consequent reduction of revenues by this measure will be more than met by the improved land tax that is now being forwarded. An agreement was signed with the Government in 1900 whereby the schedule of land taxes attached to the British treaty of 1856 has been abolished. It is expected that like agreements may be arrived at with other powers, and that the new law will be more remunerative to the Government and popular with the people.

Within the next six months, Siam will issue a paper currency which will be declared legal tender throughout the country. It is the purpose of the Government to hold in reserve an amount of money equal to the entire value of all issues made at first, but as the credit of the country becomes established abroad, a safe reserve only will be held and the surplus invested in foreign securities.

In February of this year, the treasury balance of the Government was about 12,000,000 ticals at home and £350,000 ($1,702,285) abroad.

Improved methods of administering its finances, increasing prosperity of its people, and greater security of property are resulting in constantly increasing revenues for Siam, and this, with a balance of trade in its favor, no public debt, invested securities abroad, and a snug treasury balance at home, argues well for the financial standing of the country.

HAMILTON KING,
Consul-General.

BANGKOK, *November 22, 1901.*

THE EAST INDIAN PAPAYA.

The papaya tree flourishes all over tropical India, from Delhi to Ceylon. Its fruit is greatly prized by both European and native, as well for its edible as for its medicinal qualities.

Botanically, it is of the passion-flower family and is termed *Carica papaya*, having been once erroneously supposed to have had its origin in the Asia Minor province of Caria. In the Malay language, in most of the vernaculars of India, and in the Latin-speaking countries of America it is called papaya. In the United States it is known as the papaw or pawpaw and wrongly identified with the small tree and fruit of that name, which is of the custard-apple family, and is found growing in the Middle, Western, and Southern States. According to modern botanists, the papaya is domesticated in India, and is doubtless a native of the shores of the Gulf of Mexico, whence it was introduced into India by the Portuguese at an early date or soon after the discovery of America. In the Burmese language its

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name means "fruit brought by seagoing vessels." The theory that it is of non-Asiatic origin is substantiated by the facts that it was not known in the East before the discovery of America, by its not having a Sanskrit name, and by the modern Indian name being evidently derived from the American word papaya, itself a corruption of the *Carib ababai*.

The tree grows very quickly and bears fruit within a year from first putting down the seed. It bears fruit all the year round and in great numbers. I have counted as many as 140 on a young tree less than two years old in my compound. It seems to thrive best in a hot, moist climate. It seldom grows more than 25 feet in height and 1 foot in diameter at the base, almost branchless, with smooth trunk, marked by the scar left by the fall of the leafstock, gradually tapering upward, bearing at the top a crown of long-petioled leaves, on footstalks 2 feet long. The leaves are deeply cut into seven irregular lobes, which gives the tree much the appearance of a palm. The wood is spongy and fibrous, and of no value as timber.

The yellowish-white flowers are diœcious, having the pistils of the flower on one tree and the stamens of the flower on the other. The flower of the fruit-bearing tree is close in the axils of the footstalk or in the angle formed by the leafstock and the tree, while the flower of the nonbearing tree is in long compound racemes and is one of the few flowers of India that give a perfume, which is not unlike the odor of the orange blossom. One is called the female and the other the male tree.

Perhaps in all the vegetable kingdom there is no other plant or tree that so well illustrates the sexual system of plant life. In order that the female tree may bear and ripen its fruit, repeated experiments have shown the necessity of the male tree being so situated as to insure the influence of its flowers on those of the female and render them fertile.

THE FRUIT.

The fruit when ripe attains the size of a small melon, which it somewhat resembles. While growing, it has a deep-green color, which on ripening turns to a dull orange. The interior is soft, yellowish, and sweet, and contains numerous small, black seeds arranged in five longitudinal lines along the center cavity. They have a pleasant pungent taste, not unlike mustard seed. The ripe fruit has a flavor peculiar to itself. It is eaten by all classes and is considered wholesome. In the West Indies, it is sometimes boiled and eaten as a vegetable. In India, when green, it is cooked by the natives in their curries and is also pickled. It is usually, however, eaten raw, when ripe, with salt, and is ranked among the finest of Eastern fruits.

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CHEMICAL AND MEDICINAL QUALITIES.

The properties of this tree to which I wish to draw particular attention are its remarkable chemical and medicinal qualities. Many of them are known to the profession in America, but they are more especially known to the native Hindoo, who, in his unique village life, has extracted from the vegetable kingdom many of its valuable secrets.

The juice.—The fruit, particularly in the early stages, secretes a white, milky, viscid juice of the consistency of cream, which has the extraordinary property of hastening the decay of muscular fiber exposed to its influence.

It has an energetic action upon nitrogenous substances and, like pepsin, will curdle milk; it is more efficacious than pepsin in dissolving albumen.

Papain.—The active principle has been separated and given the name of papain, and is used for medical purposes. This active principle, so analogous to pepsin in its physiological properties, may be obtained by adding alcohol to the juice of the unripe fruit, which causes a precipitate, which, when dried and powdered, is ready for use and called papain. The whole tree abounds in this juice, which is remarkable as containing fibrine, a principle otherwise found only in the animal kingdom. The celebrated chemist Vanqueline compared this creamy juice to blood deprived of its coloring matter. The resemblance between this juice and blood is indeed striking.

In its peptonizing power, it is superior to ordinary animal pepsin, having the peculiar additional advantage of requiring neither the aid of an acid nor an alkali to convert the contents of the stomach into peptone.

Chemical properties.—Tough or fresh meat of any kind dipped in water containing a few drops of the juice, or boiled in water impregnated with the juice, will become in a few minutes quite tender. A simple way to prepare meat is to wrap it in the leaves of the papaya and then roast it. In a tropical climate like India, meat requires to be cooked quickly in order to prevent rapid decomposition, and consequently is usually found tough. I have repeatedly seen my native Hindoo cook, on returning from market, roll the fresh meat or recently killed fowl in a papaya leaf, where it would remain for a few hours before cooking, thus rendering the meat perfectly tender.

Cosmetic.—The juice is used as a cosmetic to destroy freckles on the skin caused by the sun's heat, and to remove ink stains from the hands.

Vermifuge.—The milky juice is an excellent vermifuge. The natives repeatedly use it for children, a single dose, they claim, being sufficient for the cure.

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Emmenagogue.—The unripe fruit possesses ecbolic properties, and is often resorted to by native women for that purpose.

Other medicinal properties.—The green fruit cooked as a vegetable and the ripe fruit eaten as a dessert seem to have about the same effect as a good digestive and are most effective in cases of dyspepsia and habitual constipation. To my personal knowledge, since coming to India, a chronic case of dyspepsia of several years' standing has been at once relieved and finally practically cured by the person eating daily (or as often as the fruit could be so obtained) at the morning or noon meal ripe papaya as a dessert, seasoned only with salt.

The fruit and juice have several other medical properties that have long been recognized by the Hindoo pundit and lately have been receiving the attention of chemists and the medical profession.

The papaya tree grows luxuriantly in southern Florida and in all our insular possessions. Papain may be prepared in many different forms and styles. The green fruit can be pickled or preserved and the ripe fruit cured, canned, or dried and powdered.

WM. THOS. FEE,
Consul.

BOMBAY, *December 12, 1901.*

SPONGE FISHING IN THE LEVANT.

Greek and Turkish sponges have been known to the trade for hundreds of years. Syria furnishes perhaps the finest quality, and shipments are made from Tripoli and Latakia to Paris, London, Trieste, Hamburg, New York, and Piræus. During the last fifteen years, however, the output has greatly diminished, owing to the introduction by Greeks, in the seventies, of diving apparatus, which proved ruinous to fishermen and fisheries alike. It is estimated that the annual exportation of Syrian sponges at present hardly exceeds $85,000 in value. In the adjoining territorial waters of Cyprus, sponge beds are being worked with varying success. Sponges were exported from that island in 1898 to the amount of $10,425, and in 1899 $28,835 worth were shipped. Egypt, Barbary, Crete, Rhodes, Samos, Calymnos, and other islands of the Turkish and Greek archipelagoes also produce sponges for export. A large share of this trade was formerly in the hands of merchants with headquarters in Smyrna and Trieste, but it is now centered in London and Piræus. The United States annually buys sponges abroad to the amount of about $500,000, the principal shipments proceeding from Nassau (Bahama Islands), London, and Piræus.

The highest grades of sponges—the softest and finest in texture—are found principally in the Mediterranean. Some of the cheaper

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varieties are also found there, but none like those taken in Florida or Cuban waters. All through the Mediterranean, except the western half of the northern shore, three species of sponges prevail at a depth of 2 to 100 fathoms, viz: *Euspongia officinalis*, *Hippospongia equina*, and *Euspongia zimocca.*

In collecting the sponges, four methods are employed—harpooning, primitive diving, dredging, and diving with special outfit.

With harpoons, one of the chief difficulties is to see the bottom clearly through a troubled sea. To obviate this, a wooden or zinc plate cone, like a water bucket, open at the top and with a glass bottom, is used. On looking through this water glass, which is partly submerged, the bottom of the sea may be clearly studied even at 30 fathoms and the proper sponges picked out by the harpoonist.

The primitive method of diving, with no other apparatus than a slab of stone as a sinker and a cord to communicate with the surface, is most popular in the Levant. On reaching the bottom, the diver hastily snatches up as many good sponges as possible, and, after remaining under water from one to two minutes, tugs violently at the cord and is drawn to the surface. The sponges are collected in a net which the diver carries around his neck.

At greater depths, particularly along the coasts of Asia Minor, dredging is employed usually in winter, when storms have torn up the seaweeds which cover the bottom.

To these simpler operations was added some twenty-five years ago the "skafander," or diving apparatus, which enables the diver in his submarine dress to spend an hour under water at a depth of from 10 to 15 fathoms. Experience has shown that the employment of the last two methods is a severe tax upon the sponge banks, as everything in sight—sponges large and small—is gathered. Germs and seeds also suffer greatly, and it takes years before a new crop matures. The fishermen who use the skafander are frequently stricken with palsy of the lower extremities, stricture, and other complaints.

The abuses which so disastrously affect the levantine sponge industry have prompted a Russian philanthropist, Prof. Charles Flégel, to inaugurate a campaign for the abolition of diving apparatus in sponge fishing. Through his efforts, the authorities of Samos, Crete, and Cyprus have prohibited the use of the skafander; also the Governments of Italy and France, the latter acting in behalf of Tunis. The question is also being agitated in Egypt. It is said the matter will be taken up and discussed at the International Fisheries Congress which is to be held in St. Petersburg in February and March. If the Turkish Government joins the crusade, the

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skafander will most likely have to go, and, in the absence of this "engine of destruction," a new era may dawn for sponge fishers and sponge fisheries in the Levant.

As far as known, no steps of importance have been taken to protect the sponge beds in Turkish waters. A close season has been proposed, but has not been established by law. The Government collects from each boat using the harpoon or the primitive diving system 319 piasters gold ($14.03) a year. A skafander boat pays $145.20 per season, and its operations are limited to eight months in the year, beginning April 1. From the drag-net boat a license fee of $22 is exacted.

At present, only occasional shipments of Syrian sponges go direct to the United States. Considerable quantities, however, are bought in London and Piræus. Along the Syrian littoral, the demand of merchants, especially for white sponges, exceeds the supply, and prices naturally have an upward tendency. This, in connection with West Indian competition, hinders trade with America. The introduction of antiseptic surgery has also decreased the urgent demand for the Turkish article. With the advent of regular, direct steamship facilities, however, it is likely that Syrian sponges will find a fairly responsive market in the United States. Importers are referred to Dr. Harris, United States consular agent, Tripoli, Syria.

G. BIE RAVNDAL,
Consul.

BEIRUT, *January 10, 1902.*

Under date of January 14, 1902, Consul Ravndal says:

Since making the above report, I have learned that the Egyptian Government has promulgated a decree (January 10, 1902) prohibiting the diving bell in sponge fishing. It is also ordered that drag nets must not be used in waters less than 80 meters (292 feet) in depth. Licenses for boats for harpooning and nude diving will be granted at $25 per season, while dredging boats must pay $50. Any vessel using diving apparatus will be confiscated and sold.

Professor Flégel now announces that Samos, Crete, Cyprus, Tunis, and Egypt having banished the skafander, Greece and Turkey will be invited to follow their example. He hopes that they will agree to this formally at the International Fisheries Congress, which is to be held in St. Petersburg next month.

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STEAMSHIP LINES BETWEEN THE UNITED STATES AND THE LEVANT.*

It is reported that the Hamburg-American Line and the Deutsche Levante Line will establish a joint steamship service between the United States and levantine ports, the former company to manage the American end of the enterprise and the latter to superintend operations in Mediterranean ports of call in Europe, Asia, and Africa. Both passengers and freight will be carried—including the thousands of emigrants to the United States from Greece and Syria and the large American exports of agricultural implements, hardware, etc., to southern Russia. There is little doubt that the new line, strengthened by a consolidation of interests, will prove successful.

As stated time and again in commercial reports from this consulate, in the lack of direct and regular steamship facilities lies the principal impediment to the progress of American trade with Syria and Palestine, and, indeed, with all levantine countries. The annual foreign trade of Greece, Turkey, and Egypt amounts to nearly $200,000,000 in imports and more than $150,000,000 in exports. Cyprus buys abroad about $2,000,000 worth of goods each year, and the Black Sea ports are also heavy importers. The commerce of the Levant is yet in its infancy; but the above figures show that the markets of this part of the world are well worth cultivating. If the present steamship plans are carried out, it is fair to presume that the next few years will witness a decided American trade revival in the Levant.

G. Bie Ravndal,
Consul.

Beirut, *December 27, 1901.*

PASSENGER TRAFFIC BETWEEN EUROPE AND THE UNITED STATES.

In no other way is the fact of general and abundant prosperity in the United States and the new importance which our country has assumed in the estimation of European nations more clearly and effectively reflected than in the steady increase, from year to year, of the passenger traffic between Europe and the various ports of the United States. The statistics of the past year which have just been completed show that notwithstanding there was during 1901 no special attraction on this side of the Atlantic more potent than the

*See Advance Sheets No. 1244 (January 21, 1902).

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Industrial Exhibition at Glasgow, the number of American visitors to Europe exceeded that of 1900, the year of the Paris Exposition. At the port of New York alone, there landed during the past year 128,000 cabin and 440,000 steerage passengers. Of these, the North German Lloyd steamers carried 22 per cent. Adding to these the passengers carried by the regular lines of the North German Lloyd from Bremen to Baltimore and Galveston, it is found that the steamships of that one German company carried in 1901 to the three ports named 152,562 passengers, against 139,341 during the previous year. The statistics which are thus far available show the number of round-trip voyages made and the number of cabin and steerage passengers carried from European ports to New York during the past year by steamers of the several principal steamship companies, and the following list includes all such companies whose total contingent of steerage passengers exceeded 15,000 during the year:

Steamship company.	Cabin passengers.	Steerage passengers.	Voyages.
North German Lloyd (Bremen)	20,403	76,804	86
Hamburg-American (Hamburg)	20,524	63,223	106
Compagnie Générale Transatlantique	7,279	35,961	54
Red Star Line	6,241	32,793	52
White Star Line	18,167	30,483	66
Holland-American Line	5,595	25,966	51
Navigazione Générale Italiana	538	24,690	27
North German Lloyd (Mediterranean)	2,557	24,580	36
Cunard Line	17,783	19,943	57
Anchor Line (Mediterranean)	70	16,132	34
Hamburg-American Line (Mediterranean)	453	15,337	25

There exists, of course, no record by which the vast throng of cabin passengers can be classified as to nationality, and especially in respect to the motives—whether ordinary business, pleasure, health seeking, or systematic investigation—that induced them to cross the Atlantic. But it is a matter of daily observation that one class of European passengers to the United States has increased in a marked degree during the past three years, and was never so numerous as in 1901. This group includes the investigators, men of science and business, engineers, master mechanics, sociologists—even statesmen—who have made long tours of careful observation in our country during the past year to study the causes, the methods, and processes which underlie the phenomenal prosperity of the United States. It has become recognized that a visit to America—a closer, more intelligent knowledge of the social, industrial, and economic conditions which exist there—is now an essential part of a practical European education. Far more clearly than ever before, it is seen by intelligent Europeans that the type of man that has

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been evolved by more than a century of democratic government, free education, and equal opportunity, emancipated from monarchical and aristocratic influences, is worthy of being carefully studied amid the surroundings which he has himself created.

FRANK H. MASON,
Consul-General.

BERLIN, *January 18, 1902.*

NEW FRENCH SHIP-SUBSIDY BILL.

The efforts which have been made by the statesmen of France, by her lawmakers, shipbuilders, shipowners, and others, to improve the unsatisfactory condition of the French merchant marine have resulted in the passage of a new ship-subsidy act by the Chamber of Deputies, after a spirited debate lasting over six weeks.

The measure, which is intended to remedy the defects of the present law of 1893 and to encourage the French shipping interests, will shortly be discussed by the Senate, and, in the opinion of many, will become a law in the near future without many material changes.

In view of the fact that the question of the upbuilding of the American merchant navy is now being considered in the United States, I give the act, as passed by the French Chamber, in detail. Deep-sea navigation referred to in the new act is that performed beyond the following limits:

To the south, 30° north latitute.

To the north, 72° north latitude.

To the west, 15° west Paris meridian.

To the east, 44° east Paris meridian.

International coasting trade is that which is engaged inside of the above limits, between French ports, including those of Algeria, and foreign ports, and between foreign ports.

French coasting trade is that carried on between French ports, including those of Algeria.

TITLE I.

ARTICLE I. All bounties to foreign-built ships are, and remain, abolished.

No compensation or protection is granted to vessels of foreign construction.

Nevertheless, bounties will be granted under the following conditions:

Joint-stock companies, owners of subsidized vessels, must have a board of direction, of which the majority shall be French citizens. The president of the company and general manager shall also be French citizens.

When it is proved that the French owner, whether a joint-stock company or an individual enjoying the benefits of the law, is serving only as a figurehead, and that the real owner is a foreigner, the bounties shall be immediately discontinued.

The Government can make claims for the amount of bounties unlawfully collected.

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The contradictory text of the first three paragraphs of Article I was the result of a great struggle between the partisans of a foreign-built ship bounty, among whom was the Government itself, and those opposed to any compensation being granted except to vessels built in France. At first, the latter were successful in having the first two paragraphs adopted by a small majority; but upon the renewal of the debate, the third paragraph was passed also by a narrow majority, by which, under certain conditions, bounties are granted to ships of foreign construction.

ART. II. As a compensation for the charges imposed upon merchant vessels, by making them practically schools for seamen, who, at any and all times, up to the age of 45 years, can be drafted into the national navy, a shipping bounty (compensation d'armement), with the exceptions enumerated in the following articles, will be paid to all iron or steel foreign-built sea-going steamers, sailing under the French flag, of over 100 tons gross register, less than 15 years old, engaged in deep-sea navigation, which belong to French citizens, or to joint-stock or other companies fulfilling the conditions set forth in Article I.

The shipping bounty is fixed per day the steamer is in commission, and per gross registered ton.

Description.	Bounty.	
	Centimes.	*Cent.*
For each ton up to 2,000 tons	5	0.965
For each ton above 2,000 tons and up to 3,000 tons	4	.772
For each ton above 3,000 tons and up to 4,000 tons	3	.579
For each ton above 4,000 tons	2	.386

The number of days which the vessel is in commission for which the bounty will be paid is limited to 300 days maximum in any one year.

During the life of the present law, the shipping bounty will be paid to all French registered vessels until they are 15 years old.

This article is the most important one of the new act, as it revives the compensation granted to foreign-built vessels, which was suppressed by the present law of 1893. To receive the shipping bounty, foreign steamers must be sailing under the French flag, must measure over 100 tons gross, must be less than 15 years old, must belong to French citizens or to joint-stock or other companies whose president, general manager, and the majority of the board of directors are French citizens, and by the provisions of paragraph *a* of Article VI must, after the promulgation of the new law, be registered before they are 7 years old. The maximum period during which the shipping bounty will be paid in any one year is fixed at 300 days.

ART. III. In order to develop the maritime industries of France, as a general compensation for the charges imposed upon the merchant navy, and for the excessive cost of vessels built in France, a navigation bounty (prime de navigation), with the exceptions provided for in Article V, will be paid to all French-built sea-going vessels sailing under the French flag, measuring over 100 gross tons and less than 15 years old. This bounty is fixed as follows:

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(*a*) For steamers, the bounty will be 1.70 francs (32.81 cents) for the first year, with an annual decrease commencing with the date of registration of the vessel of 4 centimes (0.772 cent) for the first period of five years; of 8 centimes (1.544 cents) during the second period of five years; and of 16 centimes (3.088 cents) during the third and last period of five years. For steamers measuring more than 3,000 tons gross the bounty will be decreased 1 centime (0.193 cent) per 100 tons or fraction of 100 tons above 3,000 tons, provided that the bounty for the first year will not fall below 1.50 francs (28.95 cents) up to 7,000 tons, nor below 75 centimes (14.475 cents) for steamers measuring over 7,000 tons gross.

(*b*) For sailing vessels, the bounty will be 1.70 francs (32.81 cents) for the first year, with an annual decrease of 2 centimes (0.386 cent), commencing with the date of registration of the vessel, during the first period of five years; of 4 centimes (0.772 cent) during the second period of five years; and of 8 centimes (1.544 cents) during the third and last period of five years.

For sailing vessels measuring more than 800 tons gross, the bounty will be decreased 10 centimes (1.93 cents) per 100 tons or fraction of 100 tons above 800 tons, provided that the bounty for the first year will not fall below 50 centimes (9.65 cents) per ton. The navigation bounty will be paid for fifteen years, dating from the registration of the vessel, to all vessels constructed in France during the life of the present law.

The number of miles sailed is computed from the distance between port and port, between the points of departure and arrival, measured upon the most direct maritime line, according to the method of calculation established by the Government.

By this article, the navigation bounty granted to steamers is increased from 1.10 francs (21.5 cents), law of 1893, to 1.70 francs (32.81 cents) for the first year. The annual decrease, instead of being 6 centimes (1.158 cents) each year, as by the law of 1893, for wooden vessels and 4 centimes (0.772 cent) for iron and steel vessels, is, by the new act, for all steamers, whether built of iron, steel, or wood, 4 centimes (0.772 cent) for the first five years 8 centimes (1.544 cents) for the second five years, and 16 centimes (3.088 cents) for the third and last five years.

The navigation bounty, by the new act, is decreased for steamers measuring over 3,000 tons gross. For sailing vessels, the navigation bounty is greatly decreased, as the full bounty of 1.70 francs (32.81 cents) is only allowed to sailing vessels measuring 800 tons or less. Over this measurement, the bounty is decreased 10 centimes (1.93 cents) per 100 tons or fraction thereof; the minimum bounty for the first year being 50 centimes (9.65 cents). The provisions of this article will virtually prohibit in the future the construction of large sailing vessels, of which so many were built under the present law of 1893.

ART. IV. Five per cent of the navigation and shipping bounties awarded by the present law shall be retained for the benefit of all sailors composing the crews of the vessels receiving the bounties, and divided pro rata according to the wages earned by each.

The Ministers of the Navy and of Commerce shall establish by decree the conditions under which the amounts retained shall be divided.

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This article is entirely new, no provision having been made in the present law for the compensation of crews of vessels.

ART. V. Vessels engaged in the international coasting trade will receive only two-thirds of the navigation bounty allowed to oversea vessels or of the shipping bounty calculated as prescribed in the preceding articles. Vessels which in the same voyage engage in the international coasting trade and also in the coasting trade between a French Mediterranean port, including Algeria, and a French ocean port, a French English Channel port, or a French North Sea port, or inversely, are entitled to the shipping or navigation bounties for the duration or the number of miles sailed on the voyage during which the vessel has been subjected to the international tariff of dues, if the total amount of the merchandise on board, when passing through the Straits of Gibraltar, destined to or coming from foreign ports, represents in freight tons one-third at least of the net tonnage of the vessels.

The same provisions will also apply to vessels which, in the same voyage, are engaged in the international coasting trade with a port of northern Europe, and in the coasting trade between ports of France or of Algeria, provided that the total amount of merchandise aboard when passing through the Dover Straits, destined to or coming from foreign ports, represents in freight tons one-third at least of the net tonnage of the vessel.

Vessels going on or returning from oversea voyages, which take on or discharge cargo at Port Said, Ismailia, or at Suez, are entitled to the deep-sea bounties for the whole distance sailed.

The vessel which, on a foreign voyage, having for its point of departure, or for its port of destination on its return voyage, a French port or a port in Algeria, and which calls at one or several ports of France or Algeria, but which neither loads nor discharges other than oversea cargo, is entitled for each of the distances sailed between two of these ports to a fraction of the shipping or navigation bounties equal to the proportion which the tonnage of the oversea merchandise which may be on board during said voyage bears to the net tonnage of the vessel. If the said merchandise tonnage is equal to, or greater than, the net tonnage of the vessel, the vessel for the voyage in question is entitled to the total amount of the shipping or navigation bounties.

Under the present law of 1893, all French-registered vessels engaged in the international coasting trade receive two-thirds of the navigation bounty; but in the new act the conditions under which vessels receive the two-thirds bounty are more restricted.

ART. VI. French-built vessels for each voyage will have the right of choice between the shipping bounty as prescribed by Article II and the navigation bounty as set forth in Article III.

To obtain the shipping bounty for the maximum of 300 days, steamers shall have made, during the course of a year, a minimum of 35,000 miles if engaged in the oversea trade or of 25,000 miles if engaged in the international coasting trade.

In case the number of miles made during the year shall be less than the above, the bounties will be reduced proportionately.

Are excepted from all participation in the two bounties:

(*a*) Vessels which, before the promulgation of the present law, shall have obtained their French register after they are 7 years old.

(*b*) Vessels engaged in deep-sea and coast fishing, yachts, those receiving subsidies from the Government other than those prescribed by the present law.

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(*c*) Vessels which, in the same voyage, are engaged in traffic exclusively reserved to French vessels; also those which ply between French and foreign ports which are situated less than 120 miles apart.

(*d*) Vessels engaged in traffic reserved to French vessels only, which call at foreign ports without discharging or taking on merchandise amounting in freight tons to at least one-third of their net tonnage.

(*e*) Vessels which, from their departure from a French port until their return to a French port, will not have carried a quantity of merchandise representing in freight tons at least one-third of their net tonnage, and for at least one-third of the total number of miles sailed.

(*f*) Vessels which, having received a French register and having lost it, shall have obtained it a second time.

(*g*) Steamers which, during their trials, have not obtained a minimum speed of 10 knots, half loaded.

(*h*) Foreign-built vessels which, at the date of receiving their register or in six months afterwards, shall be mortgaged for more than one-half their value.

By the provisions of this article, French-built vessels will have the choice of the shipping or navigation bounty before each voyage. The conditions under which steamers will be paid the maximum shipping bounty for 300 days are new legislation. The changes which have been made by the new act in the exceptions from all participation in the two bounties are contained in paragraphs *a*, *e*, *f*, *g*, and *h*.

ART. VII. The tonnage admitted to the benefits of the present law, in excess of that of vessels registered before the promulgation, is fixed at the maximum of:

Five hundred thousand tons gross of steamers.

One hundred thousand tons gross of sailing vessels.

Of the tonnage of 500,000 tons above mentioned for steamers, two-fifths only can be foreign built and three-fifths of French construction.

Vessels engaged in navigation in which there is competition, which on receiving their French register are not entitled to the bounty granted by the law, as exceeding the limit above mentioned, will be ranked according to their date of registry, and will, in their respective turns, receive the bounty as other vessels cease to enjoy the benefits of the law.

Article VII is entirely new. It is thought by many that the maximum of 500,000 tons for steamers will be reached in about three years.

ART. VIII. Every captain of a vessel receiving one of the bounties provided by Article VI of the law of January 30, 1893, or one of those provided by the present law, shall carry free of charge letters and in general all mail matter which may be intrusted to him by the postal authorities of the different ports at which his vessel calls. He will, at his own expense, deliver and collect mail matter at the post-offices of the port of departure, of the ports of call en route, and of the port of destination.

The captain must also carry postal packages under the conditions prescribed by the postal laws governing such matter.

In the transportation of mail, he will incur the same responsibility to the postal authorities as the latter incur to the public,

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If a postal agent is assigned to accompany the mail, he will be furnished with free transportation throughout the entire passage, also between the places where the mail is taken on and discharged from the vessel, and the post-offices where he deposits and receives the mail.

Suitable quarters in the vessel will be set apart for the mail agent, where he may sort the mail en route.

ART. IX. Owners of vessels entering into a contract to establish for at least five years a regular line of vessels on routes where there is no regular subsidized postal steam service, making each year a fixed minimum number of miles sailed, with vessels of an age and tonnage agreed upon, can ask as a substitute for the bounties prescribed by the present law that there be granted to them, during the period mentioned in their contract, a fixed annual subsidy equal to the average of the bounties to which the vessels would have been entitled for the number of miles actually sailed.

The subvention will be established by decree issued upon the recommendations of the Ministers of Finance, of Commerce, and of the Navy.

In the decree will be specified the conditions imposed upon the owner, the mode of payment of the annual subsidy, and the amount of bond to guarantee the execution of the contract and the reimbursement of bounties unlawfully paid in case of interruption or cessation of the service.

ART. X. Articles V and VI and paragraphs 3, 4, 5, 6, and 7 of Article VII of the law of January 30, 1893, are abolished.

The duration of the application of the provisions of the present law—also those of Articles I to IV and VII, VIII, IX, X, and XII of the law of January 30, 1893—is fixed at fifteen years, commencing with the date of its promulgation.

The new act increases the life of the law to fifteen years, that of the present law being ten years, terminating January 30, 1903.

The articles of the present law which are abolished are those which have been incorporated in or modified by the provisions of the new act. Those which are continued in force relate to the definitions of international and local coasting trade; to the bounties granted to ship constructers and marine-engine builders; to the bounty given to vessels built on plans approved by the naval authorities; and other provisions, most of which are also incorporated in or modified by the new act. Article XII, referred to, is repealed by Article XXII of the new act.

ART. XI. Steamers now sailing under the French flag and those registered before the promulgation of the present law will remain subject to the provisions of the law of January 30, 1893, for the period prescribed by the said law.

At the expiration of the latter period, French-built steamers will enjoy the benefits of the present law until they are 15 years old.

ART. XII. French-built sailing vessels, or those which have received a French register, actually sailing under the French flag, and those for which orders have been given before March 1, 1902, provided they be registered before January 31, 1903, will be governed by the provisions of the law of January 30, 1893, for the duration prescribed by that law, if the owners so demand.

Article XII contains the retroactive clause which was warmly debated in the Chamber of Deputies. According to the law of 1893, owners of sailing vessels could contract for new ships up to

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January 30, 1903; but by the new act, the orders for new vessels must be given before March 1, 1902, and the new vessels be registered before January 30, 1903.

ART. XIII. Sailing vessels for which the owners demand, in execution of Article IX above set forth, the benefits of the law of January 30, 1893, must have carried for at least two-fifths of their voyage, going and returning, merchandise representing in freight tons at least two-thirds of their net tonnage.

TITLE II.

Various provisions.

ART. XIV. The conditions under which a vessel may be registered in the French colonies shall be established by decree.

ART. XV. Article VIII of the law of the 27th Vendémaire An II is modified as follows:

French vessels, without being liable to be considered as foreign vessels, can not be docked or repaired in foreign countries if the expenses of docking and repair exceed 15 francs ($2.895) per ton of total gross tonnage, unless the necessity for the increase in the expenses of docking and repair over 15 francs ($2.895) be stated in a sworn report, signed by the captain and other officers of the vessel, and verified and approved by the consular or other officer of France, or by two French merchants residing in a foreign country, and the report filed in the maritime bureau of the French port to which the vessel returns.

ART. XVI. Decrees promulgated upon the recommendation of the Ministers of Commerce and Industry, and the Postmaster-General, and by the advice of the Ministers of Public Works and Finance, can establish in a maritime port the temporary local port dues necessary to guarantee the payment of loans contracted, or the allocations granted by a Department, a commune, a chamber of commerce, and all other public institutions, for the establishment, the amelioration or renovation of the docking facilities of the port or its approaches, or for the maintenance and improvement of the depths of water in its outer harbors, its passes, canals, or docks. Decrees promulgated in the same manner can establish the local port dues necessary to pay the expenses of the services organized by the chamber of commerce for the salvage of ships and cargoes, for the protection of property, and for the police protection and surveillance of the quays and of the port.

The port dues are established according—

(1) To the legal net tonnage or legal gross tonnage of vessels, whether French or foreign.

(2) To the amount of merchandise loaded or discharged.

(3) To the number of passengers embarked or disembarked.

They can not exceed—

(1) One franc (19.3 cents) per net ton of all vessels, whether sail or steam, or 60 centimes (11.58 cents) per gross ton of steamers, or 85 centimes (16.4 cents) per gross ton of sailing vessels.

(2) Fifty centimes (9.65 cents) per ton of freight or metric ton of merchandise, or 10 centimes (1.93 cents) per package.

(3) One franc (19.3 cents) per passenger.

They are payable by the vessel; nevertheless, a decree establishing port dues upon the basis of the amount of merchandise or of the number of passengers can stipulate that the port dues will be payable by the shippers or consignees of the merchandise, or by the passengers.

The dock dues can be collected at a rate per ton registered, graduated according

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to the kind of vessel, its draft of water, its length of stay in a port, the character of its navigation, the distance of the country from which it came or to which it is bound, the nature of the ship's cargo, and the amount of cargo taken in or discharged at the port during a call. Reduced prices can be made for regular lines of vessels or total or partial exemptions granted to certain categories of vessels, whether French or foreign. The dock dues can also be collected according to units of traffic, which may be different in discharging or loading, according to the various kinds of cargo or various categories of passengers.

The tariff rates, instituted according to the provisions of the present article, or the tariffs now in force, can be modified with or without conditions in the limits of the maxima fixed by the decrees, upon the request of the public institutions for whose profit the dues are collected.

The modified tariffs can only be put in force after having been brought to the attention of the public for at least one month by posted bills, and after they have been promulgated by the Minister of Commerce, upon the advice of the Minister of Public Works and of Finance.

The local port dues are collected by the customs administration.

The form of the declaration, the method of collection—especially by suit—the methods of suppressing contraventions, the rules of competence and procedure in contests as to the application of tax shall be the same as those which apply to the customs duties.

All infractions of the regulations will be punished by a fine equal to double the local port dues in question. The cost of collection and of legal procedure are deducted from the revenue from the port dues.

Paragraph 3 of Article IV of the law of May 19, 1866, and Article XI of the law of January 30, 1893, relating to the local port dues are abolished.

ART. XVII. Article II of the law of September 21, 1893, is modified in that which relates to the composition of the crews of French merchant ships, by the following provisions:

The crews of vessels engaged in the international coasting trade in the waters beyond the Suez Canal can be composed of sailors not Frenchmen, with the exception of—

(1) All the officers (captain, mate, chief engineer, first mate, etc.).

(2) Boatswain.

(3) A minimum of two registered sailors, one for the deck work and the other for the engineer's department.

The number of French registered seamen can be reduced—

(1) Upon steamers of a net tonnage less than 1,000 tons, to five, as follows:

The captain, mate, chief engineer, boatswain, and a French registered sailor for the engineer's department.

(2) Upon sailing ships less than 1,000 tons net, as follows:

The captain, mate, boatswain, and one registered French seaman.

(3) Upon steamers or sailing vessels of less than 400 tons net, to three, as follows:

The captain, the mate, and the chief engineer, if the vessel is a steamer, or a registered French sailor, if a sailing vessel.

Vessels sailing under the conditions set forth in the preceding paragraphs can receive subsidies and navigation bounties from local budgets, provided they do not receive bounties of any kind whatsoever from other sources.

Article XVII was framed for the purpose of enabling French vessels engaged in the Eastern trade to meet the competition of English and German vessels, by allowing them to enlist crews composed partly of nonregistered foreign sailors.

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ART. XVIII. At the expiration of the law of January 30, 1893, shipbuilders will not receive the construction bounty if, in their shipyards, manufactories, and work shops, the number of foreigners employed is greater than 20 per cent of the total number of workmen.

ART. XIX. The construction of sea-going vessels, ordered by the Government for its various services, other than men-of-war, is exclusively reserved to French shipbuilders. Therefore, only the latter, whose plants are located in France, will be permitted to submit bids and plans; provided that if no satisfactory bid is received from French constructers, the foreign shipbuilders can be asked to bid. The same provision will apply when the material required is special and patented in a foreign country.

ART. XX. Decrees passed by the Council of State can authorize the Minister of the Marine to grant, upon favorable recommendation of the Council of Marine Works, and by agreement with the Ministers of Commerce and Finance, an extra military bounty not exceeding 25 per cent to vessels which, by their construction, their interior arrangements, their machinery, boilers, distilling apparatus, etc., and their speed would fulfill conditions which, from a naval point of view, would increase their value.

ART. XXI. In all cases, the reserve of 5 per cent of the bounties for the benefit of crews of vessels can only be paid to French seamen.

ART. XXII. Article XII of the law of January 30, 1893, is repealed and replaced by the following provisions:

A reserve of 6 per cent shall be retained from the amount of bounties collected under the provisions of the present law, which shall be paid into the pension fund for invalid sailors.

This reserve fund shall be appropriated:

(1) For the relief of French sailors who have suffered from shipwreck or other accidents, or their families.

(2) To the fund for retired sailors instituted by the law of April 13, 1881, for their benefit as soon as they have fulfilled the requirements of the laws in force.

(3) To subventions to chambers of commerce or other public institutions, for the creation and maintenance in French ports of seamen's homes and other similar institutions. A complete list of these subventions will be published annually by the bureau of the merchant marine of the Navy Department.

(4) The amount accruing from the deposits in the Seamen's Savings Bank during the preceding year, and falling under the application of Article XXII of the law of March 29, 1897, for not having been claimed in thirty years, will be appropriated to the Invalid Seamen's Home and for the seamen's pension fund.

A statement of these amounts will be furnished in the last fifteen days of the first quarter of the following year.

Article XXII increases the amount retained from the bounties from 4 to 6 per cent, and makes provision for a different partition of the reserve fund.

TITLE III.

General provisions.

ART. XXIII. The conditions under which the present act will be applied will be regulated according to law.

I give an example of the approximate benefits derived under the above act by a 5,000-ton steamer gross, having a French register, (1) of foreign construction and (2) of French construction:

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(1) Being foreign built, the steamer would only be entitled to the shipping bounty (compensation d'armement) as follows, per day:

	Francs.	
2,000 tons at 5 centimes (0.965 cent)	100	=$19.30
1,000 tons at 4 centimes (0.772 cent)	40	= 7.72
1,000 tons at 3 centimes (0.579 cent)	30	= 5.79
1,000 tons at 2 centimes (0.386 cent)	20	= 3.86
Total per day	190	= 36.67

One hundred and ninety francs multiplied by 300 days equals 57,000 francs ($11,001) per annum; which for fifteen years would give a total bounty of $165,015.

With the 5 per cent deduction from all bounties granted under the act, for partition among the crews of vessels, provided for by Article IV, and the 6 per cent for the pension fund, provided for in Article XXII, the total reduction is 11 per cent.

The net bounty received in fifteen years by the above vessel would, therefore, be $165,015, less 11 per cent, equal to $146,863, or $9,791 per annum.

(2) A French-built steamer of 5,000 tons gross. The navigation bounty for the first year would be 1.50 francs (28.95 cents) per gross ton per 1,000 miles sailed—that is, 1.70 francs (32.8 cents), the bounty granted to vessels up to 3,000 tons, decreased by 1 centime per 100 tons for the excess of 2,000 tons. The annual decreases are as follows:

Year.	Bounty.	
First five years (annual reduction, 4 centimes, or 0.772 cent).	*Francs.*	*Cents.*
First year	1.50	28.95
Second year	1.46	28.18
Third year	1.42	27.41
Fourth year	1.38	26.63
Fifth year	1.34	25.85
Second five years (annual reduction, 8 centimes, or 1.544 cents).		
Sixth year	1.26	24.32
Seventh year	1.18	22.77
Eighth year	1.10	21.23
Ninth year	1.02	19.69
Tenth year	.94	18.14
Third and last five years (annual reduction, 16 centimes, or 3.088 cents).		
Eleventh year	.78	15.05
Twelfth year	.62	11.97
Thirteenth year	.46	8.88
Fourteenth year	.30	5.79
Fifteenth year	.14	2.7
Total	14.90	

Or an average of 99.35 centimes (19.17 cents) per ton per 1,000 miles.

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It will be seen that the highest bounty accrues during the first ten years, during which time the original cost of the vessel should be to a large extent paid.

The official distance between Havre and New York, upon which the payment of bounty is made, is 3,171 miles. Therefore, a 5,000-ton gross French-built steamer would receive for fifteen years an average per voyage, from Havre to New York and return, of 6,342 multiplied by 19.17 multiplied by 5,000, or $6,078.82, less 11 per cent, or $5,410.15.

The results per voyage, Havre to New York and return (6,342 miles), would be as follows:

Year.	Rate of bounty.		Bounty on 5,000 tons.		Less 11 per cent.
	Francs.	*Cents.*	*Francs.*		
First year	1.50	28.95	47,565	$9,180	$8,170
Second year	1.46	28.18	46,297	8,935	7,952
Third year	1.42	27.41	45,028	8,690	7,734
Fourth year	1.38	26.62	43,760	8,446	7,516
Fifth year	1.34	25.85	42,491	8,201	7,298
Sixth year	1.26	24.32	39,955	7,711	6,863
Seventh year	1.18	22.77	37,418	7,221	6,427
Eighth year	1.10	21.23	34,881	6,732	5,991
Ninth year	1.02	19.69	32,344	6,244	5,555
Tenth year	.94	18.14	29,807	5,753	5,119
Eleventh year	.78	15.05	24,734	4,774	4,249
Twelfth year	.62	11.97	19,660	3,794	3,377
Thirteenth year	.46	8.88	14,587	2,815	2,507
Fourteenth year	.30	5.79	9,513	1,836	1,637
Fifteenth year	.14	2.7	4,439	857	767

If the vessel made ten voyages a year she would receive yearly:

Year.	Bounty.	Year.	Bounty.
First year	$81,700	Tenth year	$51,190
Second year	79,520	Eleventh year	42,490
Third year	77,340	Twelfth year	33,770
Fourth year	75,160	Thirteenth year	25,070
Fifth year	72,980	Fourteenth year	16,370
Sixth year	68,630	Fifteenth year	7,670
Seventh year	64,270	Total bounty for fifteen years	811,620
Eighth year	59,910		
Ninth year	55,550		

The Minister of Finance, in the debate of the new act in the Chamber of Deputies, estimated the bounties granted by the measure would cost the Government annually 17,000,000 to 18,000,000 francs ($3,281,000 to $3,474,000).

According to the Bulletin de Statistique et de Législation Financière, the bounties which have been paid to the French merchant

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marine and French ship and engine builders since the present law of 1893 went into operation were as follows:

Construction bounties.

Year.	Wooden vessels.		Steel vessels at $12.55 per ton.	Engines and boilers at $2.895 per 220.4 pounds.	Total construction bounties.
	Less than 150 tons at $7.79 per ton.	More than 150 tons at $7.72 per ton.			
1893	$55,000	$25,000	$225,000	$103,000	$408,000
1894	51,000	24,000	171,000	157,000	403,000
1895	61,000	22,000	256,000	201,000	540,000
1896	65,000	22,000	508,000	198,000	793,000
1897	73,000	36,000	716,000	167,000	992,000
1898	54,000	33,000	565,000	239,000	891,000
1899	44,000	36,000	1,043,000	240,000	1,363,000
1900	48,000	36,000	1,466,000	244,000	1,794,000
Total	451,000	234,000	4,950,000	1,549,000	7,184,000

Navigation bounties.

Year.	Wood.		Steel or iron.				Total navigation bounties.
	Sailing vessels.		Steamers.		Sailing vessels.		
	French.	Foreign.	French.	Foreign.	French.	Foreign.	
1893	$38,000	$4,000	$810,000	$193,000	$63,000	$63,000	$1,171,000
1894	66,000	6,000	1,012,000	254,000	103,000	74,000	1,515,000
1895	57,000	5,000	1,141,000	239,000	134,000	80,000	1,656,000
1896	44,000	4,000	1,307,000	178,000	236,000	77,000	1,846,000
1897	49,000	1,000	1,369,000	167,000	523,000	78,000	2,187,000
1898	45,000	1,000	1,274,000	155,000	736,000	67,000	2,278,000
1899	49,000	1,000	1,389,000	142,000	911,000	64,000	2,556,000
1900	53,000	1,000	1,342,000	122,000	1,372,000	62,000	2,952,000
Total	401,000	23,000	9,644,000	1,450,000	4,078,000	565,000	16,161,000

The bounties to foreign-built vessels, shown above, were those allotted to foreign ships which obtained their French registers during the régime of the law of 1881. The rapid upbuilding of the French merchant sailing fleet under the present law of 1893 is shown in the table by the progressive increase in the bounties paid to that class of vessels.

A. M. THACKARA,
Consul.

HAVRE, *January 22, 1902.*

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CANAL CONSTRUCTION IN NORTH FRANCE.

In answer to recent inquiries as to the construction of navigable canals in this consular district, I am informed that plans are being considered for a canal from the Scheldt to the Meuse; for the Chiers Canal and the Northern Canal.

SCHELDT-MEUSE CANAL.

The proposed canal from the Scheldt to the Meuse is to be something over 146 kilometers (90.7 miles) in length, but as more than 120 kilometers (74 miles) of this distance are already constructed, being the canal from the Sambre to the Oise, there remains only a distance of about 16 miles to be built. The elevation of the water level is to be 219.3 meters (720 feet), served by fifty locks. The width is to be 12 meters (39.36 feet), with a depth of 2.5 meters (7.2 feet).

Two towpaths 5 meters (16.4 feet) wide are provided for, and these are to be paved with stone over a width of 3 meters (9.8 feet).

The probable traffic is estimated at 2,160,000 tons, 1,440,000 tons in the direction of the Meuse and 720,000 tons from the Meuse to the Scheldt. The estimated cost is 88,000,000 francs ($19,184,000), or about 657,158 francs per kilometer ($126,830 per 0.62137 mile).

This amount will be paid in part by the State and in part by those interested in the construction, who will reimburse themselves by tolls and a monopoly of the towpaths.

CHIERS CANAL.

The Chiers Canal, a continuation of the Scheldt-Meuse Canal, branches toward the east at Ramilles and ends at Mount St. Martin.

The proposed length is about 93 kilometers (58 miles)—depth, width, and anchorage the same as the Scheldt-Meuse Canal. It will be fed by direct water heads at Chiers; also by a reservoir, which is to be built at Mount St. Martin.

The total cost is estimated at 43,000,000 francs ($8,296,000), an average cost of 463,400 francs ($89,437) per kilometer (0.6214 mile).

NORTHERN CANAL.

This canal is to comprise three sections, as follows: First section, Arleux to Peronne, 45 kilometers (28 miles); second section, Peronne to Ham, 25 kilometers (16 miles); third section, Ham to Noyou, 24 kilometers (14.9 miles); total, 58.9 miles.

The width at low-water level will be 12 meters (39.37 feet), with

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a depth of 2.5 meters (7.25 feet) at ordinary level and 3 meters (10 feet) at summit level.

The estimated cost is 60,000,000 francs ($11,580,000), to be provided for as in the case of the Scheldt-Meuse Canal.

W. P. ATWELL,
Consul.

ROUBAIX, *December 28, 1901.*

FRENCH AUTOMOBILE INDUSTRY.

At the opening of 1902, France still claims the lead as the automobile country par excellence. This doubtless appears strange to manufacturers in the United States, where a ton of steel and a ton of coal are cheaper than anywhere else in the world. Unprejudiced judges have lately pronounced the American automobile the handsomest on the market, and now that the rage for speed will soon be past and the practicability of the machine assured, it must be acknowledged that in this final test the United States is almost, if not quite, abreast of France. The French manufacturer has realized that he has a competitor across the Atlantic. The fact that Mr. Henri Fournier, the winner of the great Paris–Berlin race, has selected the capital of New York State as the location of the $2,000,000 automobile factory which he is to direct is significant. The general consensus of opinion among automobile manufacturers in France is that the big machine is a thing of the past, because of the restrictions upon speed in all countries. The demand is growing for a strong, light, and comfortable machine of moderate speed for general use. This is attested not only by the manufacturers, but is shown by the decrease in number of accidents, despite the growth in the automobile industry. Another tendency is the preceptible lightening of frames and a lowering of the body toward the ground, with a decided inclination toward wheels of equal size.

Apart from coal mining and the big metallurgic industries, it is estimated that automobilism, directly or indirectly, maintains more people in France than any other industry. All the factories have tripled their output during the last three years, and manufacturers formerly making cycles now produce automobiles. At first, Paris was the only city where autos were made, but now Lyons, Bordeaux, Marseilles, Lille, St. Etienne, Nantes, and Rouen have factories to supply local demands. Mr. Leon Auscher, in one of the Paris journals, mentions the following branches that are benefited by this industry:

Foundries for the production of cylinders and other castings.
Copper boiler works, factories for oilers, tubes, connections, etc.
Aluminum foundries, which work exclusively for the automobile industry.

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Spring and spindle works, whose output has increased fivefold since 1898.

Factories for bolts, screws, rivets, and other small hardware.

Wheelwrights' shops, which depend in a certain measure on automobile factories.

India-rubber factories, which have developed to a colossal extent.

Nickel and copper shops.

Aluminum-carriage-building trade and allied industries.

Automobile-painting trade.

Automobile-upholstery trade, which employs morocco-dressed cowhide to such an extent that the French tanyards can not meet the demand, and English and German products are also used.

Lamp trade, which furnishes two and sometimes five lights for each vehicle.

The small industries allied to the carriage-building trade—the leather worker, the enameler, the cabinetmaker—all contributing certain details before any single vehicle is complete.

Accumulator factories.

Specialties in measuring apparatus, ampère meters, volt meters, resistance-measurement apparatus, etc.

Manufacturing, rectifying, and canning automobile mineral fuel and preparing cans of oil and nonliquid grease.

"By reckoning all these workmen," adds Mr. Auscher, "a grand total is obtained of nearly 200,000 persons in France dependent upon automobilism."

THORNWELL HAYNES,

ROUEN, *January 1, 1902.* *Consul.*

RAILWAY AND WAR AUTOMOBILES IN EUROPE.

RAILWAY AUTOMOBILES.

Railway automobiles are beginning to be considerably used in Europe: (1) As early and late postal trains; (2) on branch lines and others where passengers are few; (3) on trunk lines where it is often difficult to secure convenient secondary trains; (4) in industrial centers and city suburbs. Furthermore, the automobile railway train can be attached for a certain distance to an express and detached at the station where the road branches.

There is an economy in the personnel of the train, in the expense of traction, in material, capital, and maintenance, and an additional traffic because of the increased number of stations made possible by the facility of stopping and starting. Up to the present time, the carriages constructed are steam and electric.

Of the former, I have noticed mention of the following: The Belgian State Railway has constructed carriages 46 feet long weighing 50 tons, with a capacity of 53 passengers. They can go at the rate of 18½ miles an hour or at a maximum rate of 34 miles an hour. Two men are generally in control; sometimes three. There are also employed in Belgium two Rowan coaches for tramway service in the suburbs of Antwerp. They have 46 places, weigh when charged 4,000

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pounds, and have a speed of 31 miles. The boiler is vertical, with inclined tubes. It is the same automobile used on the lines of the Paris Omnibus Company. The Russian State Railway (Nicolas line) employs two steam coaches. These are constructed with two stories, having 20 places for first-class, 20 for second-class, and 40 for third-class passengers. The management necessitates three men, and the maximum speed is 14 miles an hour. They burn naphtha, and the boilers have horizontal tubes. The Northern Railway of France has put on its lines a postal steam automobile, with room for 12 persons in the back part of the coach.

The following trials have recently been made in Europe with the electric automobile:

The Italian Mediterranean Railway has placed automobiles on the line from Milan to Monza. Each carriage has room for 90 passengers, of whom 16 can be seated. It goes at a rate of 27 miles, and is recharged after each 50 miles. The French Northern Railway Company, at the same time when the steam automobile mentioned above was constructed, built an electric automobile weighing 20 tons, having room for 12 people, a speed of 30 miles, and being capable of going 74 miles without recharging. The Belgian State Railway has put in service 5 carriages for tram service without baggage. Each of these has 78 places, weighs 51 tons, and can make from 62 to 93 miles, with stoppages every 3 miles, at a speed of 19 miles an hour.

WAR AUTOMOBILES.

The French War Office made a number of trials of heavy vehicles for military purposes at Aldershot the latter part of December. One of the lorries was fired with coke and propelled by a horizontal inclosed compound engine equipped with a water-tube boiler; one burned liquid fuel, but could quickly be altered to burn solid fuel; another, in which the machinery consisted of a compound engine on top of the boiler, with the power transmitted by chain gearings from the top of the boiler in front to the rear axle, burned coal and resembled an ordinary traction locomotive; and still another had a boiler with concentric water spaces, and connected framing, whence the power was transmitted to the rear axle by means of a specially constructed chain, capable of withstanding a strain of 30 tons. Each lorry had a 4-wheeled trailer.

Several military officers left Berlin last month for Cannstadt to bring back 9 automobiles purchased for army purposes at a total cost of 108,000 marks ($25,704). The automobiles were driven from Cannstadt via Heilbron to the Berlin barracks to test their speed and capacity for provision and ammunition transport.

THORNWELL HAYNES,
Consul.

ROUEN, *January 1, 1902.*

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AUTOMOBILE EXPOSITIONS IN PARIS AND LONDON.

PARIS.

The fourth international automobile exposition held at Paris from December 10 to 24 was one of the greatest of all automobile expositions. There were about seven hundred different exhibitors, and the various divisions were: Automobiles, motocycles, and all kinds of vehicles of mechanical traction; bicycles, material and tools for the manufacture of automobiles and bicycles, tires, detached parts, accessories and fittings for automobiles, motocycles, and bicycles; motors for automobiles and canoes, and accumulators; navigation, aërostatics, sports, and rowing; automobile body work, costumes and equipment for automobilists, cyclists, and tourists; inventions and various adaptations concerning automobiles, bicycles, and sports; books, photographs, publications, maps, etc.

Among the interesting features of this exposition were new models wherein the regulation of the spark and the gas was attempted by means of a control placed next the brass ratchet, which, in electric-ignition machines, controls the spark. In one model, the control was by a small button on the dashboard. An arrangement by which the hot water from the jacket could be made to circulate about the carburetor, which, in cold weather especially, secures a higher temperature and a better flow of gas, was the feature in another machine. Another feature was a valve covering which could be removed in an instant for repairs. One machine showed a differential shaft, so constructed with flexible joints as to prevent injurious jarring. One manufacturer introduced a small dynamo in addition to the accumulator box at the right of the operator. There was also exhibited a motor of 15 horsepower, 4 cylinders, aluminum water jacket, complete water circulation, admission and escape regulator, backward movement, and device for change of speed by means of a single side lever. A touring automobile had a horizontal petroleum motor, 2 cylinders, 11 to 12 horsepower, with special regulator, having expansion gear and constant compression, screwless irreversible steering gear, and chain-controlled driving wheel.

According to one of the Paris dailies, from which other information in this report is obtained, one of the exhibiting manufacturers expressed the following opinion concerning the voiturette:

> In making a small carriage, one must abandon the system which consists in taking a large carriage as a type and making all the numerous pieces smaller; it is necessary to undertake the problem from the opposite point of view and make very few separate pieces, but make them bigger than in the large carriages and consequently less fragile and with greater resisting power.

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The carriage resulting from this idea was composed of an enormous central tube placed on the wheels by means of two transverse springs. The motor and its accessories were in a block below this tube. All could be taken to pieces by removing seven rivets. The carriage above was held by twelve rivets.

Many chainless machines were also shown; the transmission of power being by the Cardau system—the connecting rod being fitted with an articulated extensible joint.

LONDON.

An automobile exposition will be held by the Automobile Club of Great Britain and Ireland in the Royal Agricultural Hall, London, beginning the 19th and ending the 26th of April, 1902. It will be divided into the seven following sections: Automobiles; detachable pieces and pneumatics; motors and generators; accessories, carriages; material and machine tools; covering, clothing, etc.

Applications for entry should be made to Mr. Cordingley, 39–40, Shoe Lane, London, E. C. French journals are calling the attention of French manufacturers to the importance of the exposition as a means for capturing the English market.

THORNWELL HAYNES,

ROUEN, *January 1, 1902.* *Consul.*

NEW FRENCH PATENT REGULATIONS.

The question of patents for inventions is one of the most interesting in every country, and for that reason I think it well to give a résumé of the recent French ministerial decree which will take effect at the beginning of 1902.

In order that a patent may be obtained in France, the three following conditions are necessary: That the invention be absolutely new; that it possess an industrial character; that it be not contrary to public order or security, good morals, or the laws of the country. An invention is not considered new when, previous to the date of filing of the application, it has received sufficient publicity in France or abroad to render it easy of imitation.

The patents are not guaranteed by the Government, which delivers them at the risk and peril of the applicant; there may be noticed on thousands of patented inventions the letters "S. G. D. G.," meaning "without the guaranty of the Government."

The cost of a French patent is 500 francs ($96.50) for five years, 1,000 francs ($193) for ten years, and 1,500 francs ($289.50) for

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fifteen years. This tax is paid in annuities of 100 francs ($19.30) in advance.

To obtain a patent, every inventor must file at the prefecture of his department—

(*a*) An application to the Minister of Commerce and Industry in which is mentioned the subject of his invention as well as the desired duration of the patent.

(*b*) A complete description of the invention, in duplicate.

(*c*) Drawings or specimens necessary to the understanding of the description, also in duplicate.

(*d*) A list of the papers thus filed.

The decree above alluded to concerns exclusively the drawings and descriptions of the inventions. The first article prescribes that the descriptions must be written with the pen in a clear hand, or printed, on paper 33 centimeters long by 21 broad (12¾ by 8 inches), leaving a margin of 4 centimeters (1½ inches). One side of the paper only must be used, and no design is allowed in the text. The second article refers to the drawings.*

For the first six months of 1902, the decree will not be applied in an absolute manner.

The courts of Lyons have recently rendered a decision interesting to patentees. By the law of 1844, the person who has obtained a patent must work his invention in France within two years after the date of patent, or he will lose his rights.

The courts have decided that the working must be real, and that publicity due to the cession of the patent to another party is not sufficient.

HILARY S. BRUNOT,

St. ETIENNE, *December 29, 1901.* *Consul.*

MUSHROOM CULTURE IN FRANCE.†

Nearly all the mushrooms consumed in Paris are grown in the disused quarries which honeycomb the country to the south of the city, more particularly in the neighborhood of Sceaux. Some of these excavations are of enormous extent and might properly be called, in certain instances, mines, for they have horizontal galleries, or levels, at various depths; but usually they have only one gallery, some 300 yards to half a mile in length and at from 30 to 150 feet below the surface. These galleries are generally from 7 to 10 feet in height, though occasionally so low that a man can scarcely stand upright in them. They are in most cases wide enough for two rows of beds, with a footway 18 inches wide down the middle.

* This was given in full in ADVANCE SHEETS No. 1217 (December 18, 1901).

† This report was prepared in compliance with numerous requests from cultivators in the United States.

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These old quarries are chosen for mushroom culture for three reasons: (1) Because mushrooms can be grown in them all the year round; (2) because they can be had cheap, the rental of one of these galleries with space for a double row of beds being only 15 centimes (3 cents) per running meter (1.1 yard); and (3) because the mushrooms are believed to be superior in flavor to those grown in the open air. American gourmets, however, generally prefer the uncultivated mushroom, and perhaps the Parisians would if they had more opportunities for making a comparison between them. From 2½ to 3 tons of these cave-grown mushrooms are sent to market every day, and the total value of the trade is about $3,000,000 a year.

METHOD OF CULTIVATION.

The grower first procures a quantity of horse manure. The large growers generally contract with cab and omnibus proprietors, carriers, and carmen, there being a belief that the dung of strong animals in constant work is better than that of hacks and hunters, which do little or light work. Moreover, in well-kept stables there is too large a proportion of clean straw with the manure, and this is quite useless to the mushroom grower, although he does not object to a certain proportion of wheat* straw (not exceeding 50 per cent) if it is sufficiently dirty, trodden, and steeped in urine. Sometimes the grower will arrange to take all the sweepings of a large stable, paying 6 francs ($1.15) per month per horse; sometimes the manure is bought by the cubic meter or cart load, the average price being $1 per cubic meter (35.3 cubic feet).

The manure is unloaded in a shady place, as near the mouth of the shaft leading to the quarry as possible. Many growers prepare a wooden frame of variable size, according to the heap to be treated, having the sides 50 inches high. This does not appear to be absolutely necessary, but probably facilitates the process of fermentation. The manure is shaken up and then pressed down with a fork, and the box is filled level with the top. The heap is then watered with a large watering pot.

Fermentation soon begins, and a thermometer thrust into the heap on the sixth day will mark a temperature of over 150° F. After eight or nine days, the frame is removed and the heap turned over, the portion in the middle being brought to the sides, and vice versa. The frame is then put back, and the heaps watered again, but less copiously. Eight or nine days later, the process is repeated for the third and last time, and, after remaining another week or so, the heap is ready for the mushroom beds. The temperature

* A belief exists that the fungus will not grow on any other sort of straw, but experiments, made at one of the agricultural colleges, showed that oat straw gave excellent results.

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has then fallen to 86° to 100° F., and the manure is brown, moist, and does not soil the hands when touched. It has also lost about 25 per cent of its bulk and does not fill the frame to a height of more than 3 feet. The total time occupied in the preparation of the manure has been from twenty-four to thirty days.

The manure is then thrown, or lowered in baskets, down the shaft and conveyed in narrow wheelbarrows to the part of the "cave" where the beds are to be made. The shapes of the beds vary according to the grower's fancy or prejudices, but they are rarely flat. If away from the wall they are often made "roof-shaped;" or if against the wall, of the form of a "lean-to roof." If space has to be economized, and the height of the cave permits, stakes are driven into the wall of the gallery, boards laid across them, and a mound made on the boards. "Sugar-loaf" mounds are also made in odd corners, and sometimes a cask will be sawn in two and the halves filled with compost. This last, however, is rarely used except to grow specimens for exhibition at shows.

The beds are still too hot to use, but if the gallery is not far below the surface and is well ventilated they soon cool down to the required temperature—between 60° and 65° F. If they do not, a stake is thrust into the mound and raised a few inches, admitting the cool air.

Dampness is not prejudicial; in fact, if the galleries are dry, watering is required before the mushrooms begin to grow, but not afterwards. On the big farms, a well is often dug in the gallery; but in the small farms, or where this is not practicable, the following simple but ingenious plan is used: A tank is placed at the mouth of the shaft and filled; one end of a thick string or loosely twisted cord is placed in the water and the other end lowered down the shaft and suspended over a tank at the bottom. The water passes along the string by capillary attraction and drips into the bottom tank.

The beds are now ready for sowing. A bed that is in full bearing is pulled to pieces, and bits of it are inserted into holes dibbled in the new beds; or a portion of an old bed from the previous season (for the spawn will keep indefinitely) which has been pressed is used. A piece of this "cake," when examined, will be found to have a number of white threadlike filaments running through it. Portions of this cake (4 by 2 inches, or so) are stuck into holes in the new beds, some 18 inches apart, and covered. At the end of eight to twelve days, they are uncovered, and if the filaments are found to have spread to the surrounding soil the cake is taken out and thrown away; if not, the "mise" (or cake) is left for a few days longer, or a fresh piece inserted. If the mise has taken, in twenty

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or twenty-five days these white filaments will be found diffused through the whole bed.*

The bed is then lightly beaten with the hand and covered with the soil in which the mushrooms are to be grown. This may be anything that is not clayey; in stone quarries, the dust of the stones is often used, or sand will do. If ordinary soil is employed, a hole is dug in a field or garden, the earth taken from the bottom and sifted from clods and stones. The object of taking the earth from deep down is to prevent the seeds of plants being transported. The mound is covered to the depth of an inch or so, and the surface beaten flat with a board or wooden shovel.

In from twenty to thirty-five days, the mushrooms begin to appear, singly or in clumps. Small, white granulations first appear at the base of the bed, and a few days later the whole surface is covered with fungi. They are considered ready to be picked when the cup has left the stem by about half an inch, and are gathered by gently screwing them round and round till the stem comes out. The beds will continue bearing for four months and in that time will produce 6 pounds of mushrooms to the square yard.

The mushrooms when gathered are sorted according to color and size, and are sold at from 10 to 20 cents (50 centimes to 1 franc) per pound; but the price, of course, is subject to fluctuations.

The mushroom grower has not many enemies to contend with, and only one of these is serious. Two forms of parasitic mold, known as the "green" and the "soft"—possibly only different stages of the same disease—attack the mushrooms, but do little harm, the crops being grown and gathered so quickly. Rats and mice and slugs and snails are easily poisoned or got rid of, but the only enemy to be feared is a dipterous insect of the genus *Sciara*, smaller than the common housefly, and perhaps identical with the small fly often found on old cheese. This fly breeds in such quantities that the candles carried by the men who tend the beds are often extinguished by them. In the full-grown state, this fly does little or no harm, but its larvæ infest the beds and walls and destroy the mushrooms before they appear above the ground. After a season of four or five months the beds produce little, and the growers say they are exhausted and must "rest" for six or eight months; at the end of that time the beds bear as well as ever, and many naturalists assert that the so-called exhaustion is nothing of the kind, but is the work of these maggots. When the galleries are closed for some months, the flies and maggots die, and work can be resumed. It has been

* Mushrooms often appear spontaneously on the beds, without being planted, the minute seeds having probably been carried on the clothes or hands of the workmen. The soil from around such mushrooms is called "virgin spawn" and is preferred to spawn from old beds, the growers believing that breeding "in and in" produces a scanty and stunted crop.

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proposed to get rid of this pest by burning sulphur, or by the fumes of sulphide of carbon, or some other agent, but the growers prefer the old method.

COST AND PROFIT.

The profit of mushroom growing is fairly good, as the following figures will show:

Cost per square yard.—Manure, 10 cents; labor, 20 cents; rent, 2 cents; total, 32 cents.

Receipts per square yard.—Six pounds mushrooms, 90 cents; spent manure,* 5 cents; total, 95 cents.

At home, our growers would no doubt take means to destroy the insect and thus secure crops all the year round. If this could be done, the profits might be estimated at nearly $2 per square yard.

I have described the method of cultivation at some length, as the French growers assert that even a temporary departure from any of the rules will cause a failure of the crop. It remains only to be added that the galleries should not be lighted (mushrooms grow best in the dark) and should be kept scrupulously clean.

JOHN K. GOWDY,
Consul-General.

PARIS, *December 24, 1901.*

THE OIL AND SEED TRADE AT MARSEILLES.

The condition of the oil and seed trade of Marseilles, as shown by the operations of the year 1901, reaffirms the supremacy of this city in these important lines. In 1892, cotton oil from America began to be recognized as a serious factor in the business. The imports of that year were as follows:

	Tons.
Cotton oil	11,040
Oil seeds	326,552
Total	337,592

Imports of cotton oil reached their maximum in 1898, during which year the receipts at this port amounted to—

	Tons.
Cotton oil	52,962
Oil seeds	309,380
Total	362,342

In 1897, the total importation of arachides had fallen to 40,243 tons and in the year following reached but 68,752 tons, as against 136,002 tons in 1901. In 1898, fear was felt lest the American oil

*The term "spent manure" is a misnomer, for analysis and experiments have shown that the manure has lost none of its properties, and the farmer who purchases it at $1 per cubic meter makes a good bargain.

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would ruin the local crushing trade, but subsequent events have established the fallacy of that conviction. Crop conditions have been favorable to the seed-crushing branch of the trade, and higher prices have diminished imports from America, so that the year 1901 gives totals as follows:

	Tons.
Cotton oil	34,323
Oil seeds	384,478
Total	418,801

Meanwhile, great as has been the fluctuation in the imports of cotton oil, still greater has been that of prices. Excluding from consideration the English oil, which comes to this port in small quantities, and taking as a basis the average price paid for American cotton oil during the years named, the showing has been:

Year.	Total imports from the United States.	Prices per 100 kilograms.	Total amount realized.
	Metric tons.		
1892	6,094	$10.21	$622,187
1898	51,003	7.93	4,044,537
1901	33,604	11.17	3,753,566

While the import from the United States has fallen off about one-third since 1898, the price paid has advanced quite two-fifths, other markets, in the meanwhile, taking our surplus at equally good prices.

Imports by marks, contrasting the great year of 1898 with the results of the year 1901, have been:

Description.	1898.	1901.
Edible oils:	*Barrels.*	*Barrels.*
Prime winter	18,744	20,264
Prime summer—		
White	5,716	4,562
Yellow	120,541	123,486
Industrial oils:		
Summer yellow	142,638	39,736
Crude oil	100	.....
Total	287,739	188,048

From the foregoing, it clearly appears that, whereas in 1898 one-half of the imports were on account of the soap trade, last year less than one-third went to industrial purposes. Thus, the increase in price can be attributed to the progress of cotton oil in popular favor as a comestible oil.

In the industrial oil and seed trade, the peanut has again raised itself to the head of the column, the imports showing an increase of 30,500 tons over last year. This supremacy is assured for the next

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year at least, all reports from India agreeing that the new crop, harvested in December, has been immense, far larger than that of a year ago. Thus far, 650,000 bags have been sold on the Madras coast, and mail advices estimate the quantity available for export at from 1,250,000 to 1,500,000 bags. If these estimates hold out, Marseilles should be able to secure from India double the quantity of decorticated peanuts imported last year. With scanty offerings of copra, and a feeling that Manila can not maintain the export figures attributed heretofore to accumulated stocks, and with the diminishing importance of cotton oil as an ingredient for the soap trade, attention is concentrating more than ever on the groundnut.

Detailed statistics for the year follow:

Yearly average prices of American cotton oil at Marseilles per 220.46 pounds.

Year.	Price.	Year.	Price.
1891	$10.90	1897	$8.02
1892	10.23	1898	7.90
1893	13.69	1899	8.60
1894	11.00	1900	11.36
1895	9.28	1901	11.17
1896	8.55		

Annual imports of cotton oil during last ten years.

Year.	From the United States.	From England.	From all other countries.	Total.
	Barrels.	*Barrels.*	*Barrels.*	*Barrels.*
1892	36,798	20,413	.....	57,211
1893	13,360	40,123	517	54,000
1894	12,530	26,530	707	39,767
1895	59,528	5,632	258	65,418
1896	112,627	11,109	126	123,862
1897	237,898	22,808	834	261,540
1898	287,739	5,150	965	293,854
1899	269,106	7,831	1,311	279,248
1900	185,515	9,260	716	195,491
1901	188,048	3,304	604	191,956

Arrivals of oil seeds at Marseilles.

Seeds.	1901.	1900.
Sesame:	*Tons.*	*Tons.*
Levant	5,885	4,769
Africa and India	59,502	61,502
Arachides:		
Decorticated	61,136	23,847
In shell	74,866	81,655
Linseed:		
Russia and Danube	230	13
Levant	378	977
Miscellaneous	9,887	10,095
Colza	7,823	6,316

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Arrivals of oil seeds at Marseilles—Continued.

Seeds.	1901.	1900.
	Tons.	*Tons.*
Ravison	270	269
Cotton	23,132	13,126
Poppy	3,516	3,938
Castor	25,931	15,942
Miscellaneous seeds	1,273	521
Copra	85,259	103,734
Palm kernels	11,872	7,981
Miscellaneous concrete materials	13,518	1,772
Total	384,478	336,457
Available stock, December 31	2,000	1,200

ROBERT P. SKINNER,
MARSEILLES, *January 13, 1902.* *Consul-General.*

SOME FACTS RESPECTING OLIVE OIL.

A gentleman writes to me from Indiana as follows:

I beg to inclose a label which I have removed to-day from a bottle of alleged French imported olive oil. The weather here is very cold and the contents of this bottle had frozen, and about one-tenth of it consisted of olive oil, while the remaining nine-tenths showed a conglomerated mass, evidently of congealed cotton-seed oil. I would respectfully suggest that you talk about this matter with some of the prominent exporters of olive oil, and impress upon them the fact that there is a big profit to be had in putting upon the United States market the genuine olive oil.

I have examined the label inclosed, and from my knowledge of the firm and the character of their business I feel fairly justified in assuring my correspondent that the contents of the bottle of which he complains was fairly represented by the label, which states the oil to be "superior virgin olive oil, guaranteed quality." The fact that the contents of the bottle had partly solidified does not necessarily prove that it consisted of congealed cotton-seed oil. The probable explanation of the condition described is that the exporter had forwarded what is known here as "tender" oil, which congeals rapidly, especially in cold weather, instead of the "hard" olive oil, which is especially calculated to resist climatic changes. If the correspondent has further doubt upon the subject, he should address a sample to Messrs. Stilwell & Gladding, expert chemists, of New York, who are very familiar with the nature of oils in general.

While, as I have frequently reported, good, bad, and indifferent oils are exported from Europe, the great bulk of carefully bottled olive oils, prepared especially for United States trade, is genuine; but buyers, and especially actual consumers in the United States, are not always familiar with the delicate nature of olive oil, and fail

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to realize that, unlike wine, which improves with age, it begins to deteriorate from the moment of manufacture. There is a very great difference in the quality of the crops of different years, which, when good, permit the resultant oil to be kept sweet sometimes for a number of years. On the other hand, when the crop is bad, as was the case last year, rancidity and congelation can scarcely be prevented after the oil is twelve months old. The crop was so bad last year that a number of crushers in Spain, who in part supply the large packers of this region, refused to make any deliveries whatever, preferring to abandon the business for a period rather than to allow their marks to be damaged in reputation. The difficulties confronting the wholesale packers can therefore be imagined. The olive crop this year is considered as good in quality as last year's was bad, and stocks purchased within the next six months will have unusual resistant qualities.

It is quite possible to procure a practically unlimited quantity of pure olive oil for the American market, but it must not be supposed that because a difference is noted in the flavors of olive oils of different marks there is necessarily adulteration. There is a wide variety in the flavor of the oil. The consuming public in the United States would doubtless secure more satisfying results if the thousands of small retail dealers there could be made to understand that the stock must be kept in a cool, dark place at all times, and in an even temperature. The rule more frequently than not is to see the handsome olive-oil bottles standing like sentinels on prominently exposed shelves, in well-heated rooms, with the full sunshine playing upon them a considerable portion of the day. It can not be expected that the contents of such bottles will remain sweet for any great length of time.

With respect to rancidity, it is just as well to mention, upon the authority of an exporter of olive oil who has had considerable experience, that a pure olive oil will become rancid under ordinary circumstances in half the time necessary to produce a like effect in the case of a composition of cotton-seed and olive oils. Thus, there is always danger that an uninformed consumer may be better pleased with the compounded product than the other, although of course a virgin olive oil in good condition is beyond all comparison superior to a compound. But the latter is none the less entitled to consideration as a meritorious product.

As olive oil is necessarily perishable and always high priced, doubtless the wisest policy for our people to pursue would be to build up the manufacture of high-grade oil in the United States. This would have for one important and immediate effect an increase in our sardine-packing industry. The main reason for the great

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demand for French sardines is that they are preserved in olive oil, and I have assured myself that great pains are taken to procure a good quality of oil for this purpose. The sardine manufacturers send their agents to the oil regions, where they personally inspect the deliveries of oil and see it loaded and sealed in the cars before leaving. Olive oil being too expensive to be available to American sardine packers, they are obliged to use vegetable oils, which, although excellent, fail to give to the sardines the dainty quality which the buyer enjoys. Not very long ago, I learned of a test of this matter made in this city by drying some American sardines and repacking them in olive oil. After an immersion of twenty-four hours, the difference in flavor was most marked and they were pronounced to be at least equal to the French article.

ROBERT P. SKINNER,
Consul-General.

MARSEILLES, *January 9, 1902.*

DIRECT EXPORTATION TO SOUTHERN FRANCE.

During the past few years, I have sought to convince firms dealing in American goods here that development of their trade could be obtained only by direct dealings. Reports from this consulate have also indicated to our manufacturers that it would only be through direct trade that their goods might be successfully introduced here and enabled to compete with those of other countries. I have even insisted that it would be indispensable, in view of the geographical position of this region, to grant special agencies, so that the commissions, freight, and other charges resulting from dealing through general agencies in London, or even in Paris, which greatly augment the first cost of goods here, might be saved. My recommendations may be summed up in the phrase, "Goods direct from the manufacturer to the docks in the Mediterranean region."

I am happy to state that the representative of an American firm here has been persuaded to appoint a special agent. His firm is being advertised and orders have already been forwarded. Other firms are preparing to follow in the same line, and I venture to predict that manufacturers who adopt this system will be astonished at the development of their business in the Mediterranean—a region representing practically virgin soil for American export trade.

On the other hand, I have been enabled to convince one of the leading financiers of Nice that there would be, in the adoption of this plan of exclusive agencies and direct trade from factory to dock, a wide field of remunerative commerce and a unique opportunity for sharp and active competition. The result is that the

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gentleman has founded here a concern known as the "Comptoir Franco-Americain," which has for its object the importation of goods manufactured in the United States exclusively. This will be a valuable factor in the creation of direct trade between the United States and this consular district.

HAROLD S. VAN BUREN,
Consul.

NICE, *January 15, 1902.*

AMERICAN TRADE OPPORTUNITIES IN FRANCE.

To the items mentioned in a recent report on this subject* may be added the following:

LAUNDRY MACHINERY.

There are 210 establishments in this city where washing and ironing are done by hand. There are no steam laundries here nor in the neighboring towns of Elbeuf (50,000 inhabitants), Petit-Quevilly (14,000), Sotteville-lès-Rouen (19,000), St. Etienne (6,000), Darnetal (7,000), Deville-lès-Rouen (6,500), and Caudebec-lès-Elbeuf (10,000).

There is no more promising field in any country, perhaps, for the introduction of laundry machinery than Normandy. If the prejudice of the people were once overcome, a well-equipped steam laundry would undoubtedly yield large returns, and money awaits the American who has the requisite push and patience.

PAPER.

France manufactures some fine writing paper and a great deal of a very poor quality, used mostly for business correspondence. It is not the quality, however, that gains or loses buyers; it is the tint, often the shape, and especially the manner in which the paper is prepared for this market. Most of the paper coming to France from America arrives flat and is worked up to suit the French taste. The American manufacturer fails to give it the artistic finish desired. In the matter of boxed papers, whether for polite correspondence or papeteries, France is as far ahead of the United States in attractiveness of presentation as the latter is ahead of this country in quality. For this reason, the American manufacturer would doubtless be more successful in the sale of paper for commercial correspondence. As a general rule, paper for French business correspondence is of a very inferior quality, and the average business envelope would often be considered too shoddy for use in America.

One of the needs of all offices in this country is a good blotting paper. The article in general use is very poor. Visitors have

*See ADVANCE SHEETS No. 1215 (December 16, 1901).

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frequently commented upon the excellent quality of the American blotters used at this consulate.

The duty on paper from the United States is rather high, but is no greater than that levied on the English and German productions. The rates for each 220.46 pounds are as follows:

Paper:	
Fancy, colored, marbled, enameled	$6.95
All other	2.89
Cardboard:	
In sheets	2.51
Pulped (papier-maché)	2.32

Some of the Rouen dealers in paper and office furnishings are:

M. Delarue, 81 rue Grosse-Horloge.
M. Gilles, 83 rue Charettes.
M. Lachelier, 35 rue Jeanne-d'Arc.
M. Langlois, 20 rue Thiers.
M. Delamare, 25 rue Jeanne-d'Arc.
M. Huquerre, 4 place Cauchoise.
M. Delesques, 45 rue de la République.

DOOR AND WINDOW APPLIANCES.

Fastenings for doors and windows are very clumsy and heavy. The keys are often too large to carry conveniently. Windows invariably open inward. They are hinged at the side, and fastened at both top and bottom by means of an iron rod. This requires considerable room and interferes with the shades and curtains.

All shades in use in Normandy are worked by a cord which is fastened at the side of the window. There are no automatic shades in use. Their introduction will not, however, be effected by English or even French circulars; personal effort is required.

THORNWELL HAYNES,
Consul.

ROUEN, *January 11, 1902.*

WINE AND CIDER PRODUCTION IN FRANCE.

The following figures are from the official report of the wine and cider production of France in 1901:

WINE.

The extent of French vineyards was enlarged 4,894 hectares (12,093 acres) last year, which made in all 1,735,345 hectares (4,288,037 acres). The yield for 1901 was 57,963,514 hectoliters (1,531,280,113 gallons); in 1900, it was 67,353,000 hectoliters (1,779,331,554 gallons). The average for the last ten years is 39,958,000 hectoliters (1,055,610,444 gallons).

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During the first ten months of 1901, 3,149,000 hectoliters (83,190,282 gallons) were imported, of which Spain sent 675,000 hectoliters (17,832,150 gallons), Italy 14,000 hectoliters (369,852 gallons), Algeria 2,214,000 hectoliters (58,489,452 gallons), and Tunis 22,000 hectoliters (581,196 gallons).

The figures for the Algerian production in 1901 are 5,563,032 hectoliters (146,963,334 gallons) from 151,877 hectares (375,288 acres) of land. The production of wine from dry raisins amounted to 37,673 hectoliters (995,243 gallons), against 93,451 hectoliters (2,468,788 gallons) for 1900.

CIDER.

The production of cider in 1901 was 12,733,860 hectoliters (336,402,053 gallons). This is 16,674,988 hectoliters (440,519,832 gallons) less than the production of 1900.

THORNWELL HAYNES,

ROUEN, *January 11, 1902.* *Consul.*

THE GERMAN VINTAGE OF 1901.

It was hoped that the fast-diminishing supplies of former vintages would be replenished by the vintage of 1901, on which great hopes were staked. These hopes, however, have not been fully realized.

The magnificent wine-growing weather of the past summer could only make up for the delay in the flowering period of the vines, so that in September the grapes were not farther advanced than in other normal years, and good autumn weather was still necessary to insure a good quality. Instead of this, cool, rainy weather set in, causing the grapes to decay rapidly. Happily, at the end of September and throughout October, there were a number of warm, sunny days, which saved the vintage, which, if properly treated, will prove a salable wine. As to quantity, the vintage may, on the whole, be considered satisfactory.

WORKING OF THE NEW WINE LAW.

Since harvesting the vintage, prices have advanced somewhat. The low prices at the beginning were due in a great measure to the uncertainty caused by the new law regulating the traffic in wine. This law is causing the dealers to refrain from buying the new product, as they prefer to leave the risk of doctoring the wine to the small wine growers and later to take their pick.

The wine of this year's crop has a very large percentage of acidity, and it is a difficult matter to treat it in such a manner as to produce a salable article without violating the new law.

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PRICES.

Last month (November, 1901), the prices for small and middle wines in the different wine-growing localities of Germany were as follows:

Rhine-Hesse	per 320 gallons...	$70 to $100
Rheingau	do.....	140 to 160
Middle Rhine	per 266⅔ gallons...	110 to 125
Upper Moselle	do.....	65 to 85
Middle Moselle	do.....	110 to 185
Lower Moselle	do.....	100 to 175
Saar	do.....	125 to 225
Ruwer	do.....	135 to 210
Nahe	per 320 gallons...	70 to 100
Palatinate	per 266⅔ gallons...	50 to 150
Baden:		
White	do.....	75 to 135
Red	do.....	100 to 160
Franconia	do.....	80 to 100
Wurttemberg	per 320 gallons...	110 to 150
Alsace-Lorraine	per 266⅔ gallons...	55 to 70

WALTER SCHUMANN,

MAINZ, *December 21, 1901.* *Consul.*

AMERICAN COAL IN EUROPE.

The most important factor in the creation of a permanent export trade in American coal is the solution of the question of cheap ocean transportation. With the unusually low ocean freight rates between American and European ports now prevailing, which can only be considered as temporary, importations of American coal into portions of France are possible. To secure permanent foreign outlets for the products of our coal mines, it remains for American ingenuity, backed by American capital, to devise some means by which coal can be carried at all times to European ports at rates low enough to permit the American exporter to offer his product at prices which will enable him to compete with British coal.

It is my opinion that if regular lines of steamers, built upon up-to-date economic principles, especially for carrying large cargoes of coal and fitted with modern labor-saving appliances, with fixed sailing dates, were established between our coal-shipping ports and certain ports of France, enough return freight could be secured to reduce the cost of coal transportation to a minimum.

At present, Marseilles is the port in France where the conditions are the most advantageous for the sale of American coal, owing to the comparatively high freight rates from British coal-shipping ports. During 1899 and 1900, in consequence of the high prices of

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British coal, contracts were secured by American exporters, which, for the most part, have been filled. The American combustible has gained a foothold in the southern European market, and it remains for our exporters to make it a permanent one.

The importations of coal into France from the United States are not large, as compared with the total American coal exports; but the statistics indicate that for the past three years the receipts of American coal in this country are increasing. For the twelve months ended June 30, 1901, the coal exports from the United States to France were 208,941 tons, against 55,317 tons and 1,011 tons, respectively, during the same periods of 1900 and 1899.

The British consul-general at Marseilles, in a recent report to his Government upon "American vs. British coal in the Mediterranean," says, in part:

I hold, therefore, that for the present American competition in coal is not a very serious matter. But now let us look a little farther ahead and consider what must inevitably happen if Americans succeed in passing their shipping-bounty bill. With 2s. 6d. (60 cents) per ton in their favor, and with high prices ruling at home, American competition will be a very serious matter indeed. American coals now offered at 1s. 6d. (36 cents) per ton below competing qualities of British are, in the opinion of Americans, quite able to stand a further reduction, if this is necessary to meet any further fall in British prices. They do not believe that prices in Great Britain will ever come down below American output prices; but if they do, the American shipping-bounty bill will by that time have enabled them to become masters of the situation. With the passage of the bill the very thorough preparations that have been made for the past two years by the Baltimore and Ohio and other leading companies in the United States, with a view of ultimately monopolizing the Mediterranean coal trade, will have matured sufficiently to permit of their starting operations on a large scale.

The new French shipping-subsidy act, which has lately passed the Chamber of Deputies and which is to be considered shortly by the Senate, will, in the near future, become a law, probably without any material change by the latter body. This bill greatly favors the construction of steamers in France up to and including 7,000 tons gross measurement, by granting, with certain exceptions, a navigation bounty (prime de navigation) of 1.70 francs (32.8 cents) per gross ton per 1,000 miles sailed to steamers measuring over 100 tons gross and up to 3,000 tons gross, and a bounty of not less than 1.50 francs (28.95 cents) to steamers of over 3,000 tons gross and up to and including 7,000 tons gross for the first year after registration, with a gradual annual decrease for fifteen years. From this bounty there is deducted a sum equal to 11 per cent, 5 per cent of which is divided among the crews of the steamers and 6 per cent is reserved by the various sailors' pension funds. The minimum bounty for steamers over 7,000 tons gross for the first year is 75 centimes (14.475 cents).

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An example showing the benefits which a French-built steamer of 7,000 tons gross (not belonging to a regular subsidized mail line) engaged in carrying coal or other merchandise between New York and Havre, for instance, would derive from the new act will be of interest.

The official distance between Havre and New York upon which the subsidy would be based is 3,171 miles; 7,000 tons at 1.50 francs per ton per 1,000 miles equals 10,500 francs ($2,026.50); distance between Havre and New York and return, 6,342 miles; 10,500 multiplied by 6,342 equals 66,591 francs ($12,852); deduct 11 per cent, 7,325 francs ($1,414); net bounty for the first year, 59,266 francs ($11,438).

If the steamer left Havre without any cargo and returned from New York with 9,000 tons of coal, the bounty received by the owners of the vessel the first year would be equal to $1.27 per ton of coal.

The annual decrease in the bounty to steamers, commencing with the date of registration of the vessel, is 4 centimes (0.772 cent) for the first period of five years; 8 centimes (1.544 cents) for the second period of five years; and 16 centimes (3.088 cents) during the third and last period of five years. In other words, the average bounty to steamers of from 3,000 to 7,000 tons for the first five years would be 1.42 francs (27.4 cents); the average bounty for the second period of five years, 1.10 francs (21.25 cents); and for the third and last period, 43 centimes (8.29 cents). With this assistance from the Government, owners of French-built steamers will be in a position to enter into contracts with American coal shippers to transport coal to France and other countries at low rates.

French capitalists are studying the question whether American coal, carried on subsidized French steamers, could not be delivered in France and other European countries at such prices as would enable it to enter into successful competition with British and other coal. With this end in view, one syndicate has already sent a representative to the United States to confer with colliery proprietors, coal shippers, and others interested.

The British foreign coal trade is well established, and it will be only by intelligent and systematic effort on the part of American coal miners and shippers that American coal can expect to compete with British coal in the European markets. Cheap ocean transportation having been secured, selling arrangements should be made by which business will be transacted direct with the importer, or American coal firms should have reliable agents to represent them, instead of doing business through three or four different persons. American shippers are sometimes represented by English houses which have no business relations with France, and have to depend

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upon other English houses which have. As a consequence, coal which sells at Philadelphia at $2.50 per ton is offered to French consumers at from 50 to 75 cents more, as the English middlemen must have their profits. Competition is so keen that American coal should not have to bear any increased expense from commissions paid to middlemen.

Depots filled with modern labor-saving apparatus should be established at convenient points where coal can be discharged from vessels, stored, loaded on cars, etc., at the lowest cost. From these depots orders for less than cargo lots could be filled.

American exporters should study the requirements and the customs of foreign trade and conform to them. They must not expect to sell coal for cash or demand payment before the coal leaves the United States. They should make regular deliveries of the quality of coal ordered.

The two cargoes of anthracite coal recently sent to Rouen, which excited such interest among the coal dealers in Paris and elsewhere, turned out so badly that the trade in American anthracite in northern France, which looked so promising, has received a setback which will require a long time and hard work to overcome.

The following are the prices of British coal which ruled in December, 1901—and which have not changed materially since—f. o. b. shipping ports, with the export tax of 1s. (24.3 cents) included, 2.5 per cent discount for payment in thirty days' time:

Description.	Price.	
	s. d.	*s. d.*	
Best Newcastle:			
Colliery screened		13 0	$3.16
Small		6 0	1.46
Best Durham gas coal		13 0	3.28
Best Cardiff:			
Colliery screened	16 0 to	17 6	$4.01 to 4.25
Small	10 0 to	12 0	2.43 to 2.92
Best Newport:			
Colliery screened	15 0 to	16 0	3.65 to 3.89
Small	9 9 to	10 6	2.37 to 2.55
Best Scotch, colliery screened		12 0	2.92
Swansea anthracite:			
Colliery screened, large		20 0	4.87
Nut		27 0	6.57

The freight rates from British shipping ports at present are as follows to the places named:

From the Tyne.

Hamburg	$0.97
St. Nazaire	.88
Rouen	1.21
Havre	1.00
Genoa	1.27

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Bilbao	$0.79
Nice	1.39
Carthagena	1.17
Alexandria	1.27
Bombay	2.43
Barcelona	1.58

From Cardiff and Newport.

Malta	.97
Genoa	1.30
Alexandria	1.27
Port Said	1.21
La Rochelle	1.11
Venice	1.64
Las Palmas	1.46
Rouen	1.27
Bordeaux	1.16
St. Nazaire	.92
Marseilles	1.30
Rochefort	1.06
Gibraltar	1.27
Barbados	1.55
Havre	1.03

From Scotch ports.

Bordeaux	.965
Fiume	1.58
Genoa	1.30
Kiel	1.15
Trieste	1.58
Hamburg	1.15
Havre	1.03

American soft coal is quoted by a large importer at from $4.38 to $5.35 per ton f. o. b. French Channel ports, according to quality, and at from $4.50 to $5.47 at Mediterranean ports, the freight from American shipping ports being from $2 to $2.19.

American anthracite, nut size, is quoted f. o. b. Havre at 28s. ($6.81), while the price of Swansea anthracite, nut coal, is 31s. ($7.54). Some French dealers in British anthracite import their coal in large colliery sizes (screened), and with their own machinery break it up and sort it into sizes suitable for their customers. They find it more satisfactory and more economical to prepare the coal themselves than to pay the extra price charged by the Swansea colliery owners for nut sizes.

There are three sizes of anthracite nut coal known to the French coal trade: German size, 0¾ inch to 1¾ inches; Paris size, 0¾ inch to 2¼ inches; and French size, 1¾ inches to 2¼ inches.

The president of the Western Railway of France informs me that the coal most desired by his company for use in their locomotives should contain from 18 to 20 per cent of volatile matters, with

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an ash result of from 6 to 7 per cent; that the quantities of coal contracted for vary and depend greatly upon the price. When the coal is imported by sea, the contracts are made so that full steamer cargoes may be delivered. Deliveries are generally made between January 1 and August 31.

Permanent foreign trade in American coal will depend upon—

(1) The establishment of lines of steamers with regular sailing dates, built for carrying large coal cargoes, fitted with up-to-date appliances, and capable of being run under the most economical conditions.

(2) The erection of coal depots fitted with modern labor-saving apparatus for discharging and handling coal.

(3) The creation of a complete organization for selling coal and doing away with all middlemen.

(4) The observance of the commercial customs of the foreign country.

(5) The carrying out of the letter and spirit of all contracts.

A. M. THACKARA,

HAVRE, *January 8, 1902.* *Consul.*

OPENING FOR COAL IN GERMANY.

The stagnation of business in Germany during the last year has affected nearly all branches of industry and has also had a marked influence upon coal prices. Yet the reduction in coal prices has not been as important as had been anticipated. The mine syndicates have succeeded by artificial means—such as reduction of output and of wages—in maintaining prices.

The local union of china and stone ware manufacturers includes fifty-four important factories. At a general meeting just held to deal especially with the question of purchasing coal, stress was laid on the fact that in the period from April to November, 1901, 13,000 carloads of coal of 10 tons each had been purchased by the union and distributed among its members. Here, I should say, is a first-class chance for American coal dealers to gain a footing on the Coburg market.

One reason why our coal dealers have so far had small success in their efforts to do business with Germany is the difficulty they have had in disposing within a short time of a whole shipload of coal; but seeing that the china and stone ware manufacturers' union has within the first eight months after its formation purchased 130,000 tons of coal for its members (a consumption which will no doubt increase considerably in the future), American shippers should find

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it worth their while to correspond with the purchasing committee. This can be reached by addressing either Herrn Commerzienrath Swaine, Hüthensteinach, near Sonneberg S. M., Germany, or Herrn Commerzienrath Rössler, Rodach, near Coburg, Germany. I would recommend adding to the address the following: "Vorstandsmitglied der Einkaufsvereinigung von Rohstoffen der Keramischen Industrie."

Mr. Fr. Ritter, of Coburg, the largest coal merchant in the district, might also be approached on this subject with good results.

Various kinds of coal are used by china manufacturers, but preference is generally given to the Bohemian lump coal, a carload (of 10 tons) of which costs 230 marks ($54.74) at Coburg station.

Seaports to which American coal for this district could be shipped are Hamburg, Bremen, and Rotterdam.

The freight rates for carloads of 10 tons are: From Hamburg to Coburg, about 110 marks ($26.18); from Bremen to Coburg, about 103 marks ($24.51); and from Rotterdam, using the water route to Frankfort and coming from there to Coburg by rail, about 120 marks ($28.56).

American dealers must keep in mind that the manufacturers in this district have, as a rule, no arrangements for storing large quantities of coal. Most of them make, through the above-mentioned union, contracts with the pits for the delivery of a certain number of loads per week or per month.

Such convenient terms, unless a large depot were constructed at the seaport, could not be offered by American dealers; they would have to try to induce manufacturers to receive the whole supply. A very good quality, at a comparatively low price, is the inducement which may bring about this opening for American coal.

OLIVER J. D. HUGHES,
Consul-General.

COBURG, *January 10, 1902.*

COAL TRADE OF GREAT BRITAIN.

The total export of coal from Great Britain during 1901 was 41,878,345 tons, while for 1900 it was 44,088,405 tons, showing a decrease for 1901 of 2,210,060 tons.

Scotland exported 6,193,494 tons of coal last year, as compared with 7,376,942 tons in 1900, or a decrease of 1,183,448 tons.

The shipments from Scotland were as follows:

	Tons.
Belgium	95,438
Denmark	915,287
France	586,260
Germany	1,731,748

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	Tons.
Holland	126,843
Italy	420,915
Norway	437,576
Russia	493,419
Spain	126,541
Sweden	753,162
Other countries of Europe	74,517
Countries out of Europe	431,788
Shipments to home ports	3,724,275

It will thus be seen that while the percentage of decrease for Great Britain is 5, for Scotland it is nearer 16 per cent. Scotch dealers ascribe this disproportionate loss to the working of the export tax of 1s. (24.3 cents) per ton which the Government levied last year. It is also claimed by coal dealers of the United Kingdom that the tax is responsible for the loss in the export trade of coal generally. While it is possible that the manner of levying the tax may be responsible for the disproportionate loss of Scotch coal, it is not so certain that the operation of the tax has resulted in materially reducing the total exports of coal. The year 1900 was a record one, in all probability due to the fact that business on the Continent, and indeed the world over, was unusually brisk. The opposite conditions, especially in Europe, prevailed for the greater part of 1901. The exports of coal from Great Britain for 1899 were 41,066,877 tons. It will thus be observed that, compared with 1899, there is an actual increase for 1901 of 811,468 tons.

SAMUEL M. TAYLOR,
GLASGOW, *January 7, 1902.* *Consul.*

WAGES REDUCED IN BRITISH METAL TRADES.

In the iron and steel trades in Scotland and the north of England, production has fallen off considerably this year, as compared with 1900. Reliable statistics of production during 1901 are not yet available, but it is estimated by well-informed men in the trade that the output of pig iron is 10 per cent below last year's figures; of manufactured iron in all forms, 35 per cent; and of steel, about 10 per cent. The continued prosperity of the shipbuilding industry has alone saved the steel trade from a far more serious decline in point of production; but even the increased demand from the shipbuilders has not, despite the diminished output of steel, checked the shrinkage in prices. Steel plates have fallen from $32.45 per ton in December last to $28.45 at the present time; manufactured iron, from $40.10 per ton to $31.65. Perhaps the most noteworthy result of the unfavorable conditions that have obtained in the iron

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and steel trades is the general reduction of wages, blast-furnace men having lost as much at 29 per cent, steel-plate makers and smelters 20 per cent, iron workers 17 per cent, and ironstone miners 29 per cent.

RUFUS FLEMING,
Consul.

EDINBURGH, *December 30, 1901.*

MANCHESTER EXPORTS TO THE UNITED STATES.

Consul Grinnell sends from Manchester, January 8, 1902, tables of the exports of cotton yarn and cotton velvets, cords, and fustians from that district to the United States, for the years 1900 and 1901, as follows:

Exports of cotton yarn to the United States during the years 1900 and 1901.

Month.	1900.	1901.
	Pounds.	*Pounds.*
January	290,342½	199,654½
February	330,655⅛	171,054⅛
March	440,332	185,180
April	391,701½	156,445½
May	390,032½	180,184½
June	363,709⅛	170,864⅛
July	284,360⅛	173,941⅛
August	257,220	183,475⅛
September	201,819⅛	174,320⅛
October	200,351⅞	310,313⅜
November	189,551 1/16	265,993⅛
December	196,153⅜	232,393⅜
Total	3,536,229 7/16	2,403,821⅛

Exports of cotton velvets, cords, and fustians to the United States during the periods named below.

Month.	1900.			1901.		
	Dyed.	Undyed.	Total.	Dyed.	Undyed.	Total.
	Yards.	*Yards.*	*Yards.*	*Yards.*	*Yards.*	*Yards.*
January	445,024½	713,177¼	1,158,201¼	353,937	452,702¾	806,639¾
February	470,843½	865,937¾	1,336,781¼	314,416¾	713,484	1,027,900¼
March	639,086½	1,188,145½	1,827,232	281,870½	590,215½	872,086
April	385,467¾	830,972¾	1,216,440	288,669¾	497,383	786,052¼
May	530,147⅜	961,536	1,491,683⅜	536,286½	487,560¼	1,023,846½
June	710,383½	663,461¼	1,373,845¼	631,556½	579,866	1,211,422½
July	725,950	722,320½	1,448,270½	883,679	800,448¾	1,684,127¾
August	800,911¼	826,590½	1,627,501¾	804,003½	712,905¾	1,516,909¼
September	635,396¾	574,704¾	1,210,101½	810,397¾	659,753¾	1,470,151½
October	452,316⅛	473,515¼	925,831⅜	779,816½	467,819½	1,247,636
November	274,621⅞	671,633¾	946,255⅝	536,797½	521,376¼	1,058,173¾
December	181,528¼	513,560¼	695,088½	408,131	277,179¾	685,310½
Grand total	6,251,677⅜	9,005,555½	15,257,232⅞	6,629,562¼	6,760,695¼	13,390,257½

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IRISH POPLIN INDUSTRY.

Consul Swiney sends from Cork, January 17, 1902, a newspaper clipping in regard to the poplin industry, which reads, in part:

The interest which is now being taken in the English silk industry, and the efforts being made to revive its ancient glories, will fall short of the good intended if the Irish poplin industry is not included and prominently brought before the British public. At present, there is a decided improvement in the trade, due probably to three causes—the active interest taken by the Queen in the British silk industry, Irish as well as English, the peculiar suitability of the material to the fashions of the day, and the special favor shown it by many of the leading English, French, and American firms, who have lately given large orders.

Like the English silk industry, the Irish poplin trade owes its origin to the revocation of the edict of Nantes and the expulsion of the Huguenots from France. Many of the emigrants settled in Dublin, and the trade still remains in the hands of their descendants. The rule is rigidly enforced that none who have not served a seven years' apprenticeship and who are not the eldest sons of regular tradesmen may work or will be recognized as weavers. This may have much to do with the high class of work produced.

The earnings of the poplin weavers vary a great deal. The average wage is about £1 5s. ($6.08) a week, but all depends on the quality of the fabric. They are paid by the yard. For some weaving, the workmen receive as much as 4s. (97 cents) a yard. To the very best and most experienced "hands" are given the magnificent heavy gold and silver brocades, and these men receive up to 8s. ($1.95) a yard. As the tissue is of pure metal, this weaving requires the highest class work and proceeds very slowly, so that the earnings of these trained artisans often do not exceed £3 ($14.60) a week. In weaving with gold and silver, the workman has continually to stop to make sure that the thread lies perfectly flat, the thread being sometimes so fine that it can hardly be felt. In former times, the weavers worked in their own homes, but now the large establishments have their own factories, where the material is stored and given out to the weavers as wanted.

The silk used for poplin comes from China; it is dyed in Dublin, the colors being unrivaled in brilliance. Dublin seems to be the only place where this exquisite fabric can be satisfactorily made. This has been put down to some peculiar quality in the water. Poplin is, as everyone knows, a combination of silk and wool, so woven that the upper and lower surfaces are of the purest silk, while the interior of the material is of wool, thoroughly shrunk before weaving, so that "cockling" is an impossibility. Considering of what it is composed, this material is wonderfully inexpensive, the prices ranging from 3s. 6d. to 10s. (85 cents to $2.43) a yard, while the brocades vary from 6s. to 18s. ($1.46 to $4.38) a yard. Gold and silver brocades are not included in this estimate. Lengths of any color can be made in fourteen days, while original designs can also be carried out. It is a most economical material, for it outwears all others and looks well to the end. Poplin is divided into three classes—single, double, and terry. The first two are so much alike that the uninitiated could not tell the difference, which consists in the quality of silk used in the warp; the third is corded and is that class which is mostly associated in the public mind with Irish poplins. So much ignorance of this beautiful material has existed that those interested in the Irish poplin industry are earnestly hoping that the festivities connected with the coronation will attract public attention to it.

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FISHERIES OF ABERDEEN.

The industry of white fishing (which includes all edible fish, with the exception of salmon and herring) was inaugurated at Aberdeen, in 1883, with two trawlers, and shortly afterwards steam-line boats were added. Since that year, the fleet has increased to 175 trawlers and 47 steam liners, 14 of the latter being employed during the greater part of the year as steam drifters.

Besides the regular fleet, a number of trawlers from the adjacent ports of Fraserburgh and Peterhead make Aberdeen their head-quarters during a period of the year; many incidental landings are also made at this port by English and foreign trawlers and liners.

In addition to the above fleet, some 30 steam trawlers and liners are in course of construction.

For the first eleven months of 1901, the landings of trawled fish amounted to 904,619 cwts., valued at £554,055 ($2,696,309), and of line fish, 157,373 cwts., valued at £95,192 ($463,252). The total quantity of trawled, line, and drift-net fish recorded during this period was 1,245,932 cwts., valued at £692,362 ($3,369,380).

The average daily deliveries of trawl and line fish exceeded 191 tons. Taking the aggregate for the past five years, most fish have been landed in the month of June, followed by April, May, November, and October.

A fully equipped modern trawler costs from £5,500 to £6,200 ($26,766 to $30,172), and even as high as £7,000 ($34,066) have recently been paid. Steam liners cost from £3,500 to £3,700 ($17,033 to $18,006), not including gear. All well-managed companies pay from 10 to 30 per cent on the money invested.

In the early days of the industry, a large proportion of the trawlers were paddle steamers, but that type of fishing vessel is now almost obsolete. The introduction of the otter trawl, which some five years ago displaced the beam gear, has provided a much more efficient means of capture than the old system. The deck work on trawlers and on some liners at night is now accomplished with the aid of acetylene gas or electric light. Both trawlers and liners are larger and speedier vessels than formerly, and the former now carry many more lines.

The bulk of the trawl fish landed at Aberdeen comes from the northeast and east-northeast grounds, 50 to 300 miles off.

The principal varieties of fish caught are cod, ling, tusk, saithe, hake, haddock, whiting, turbot, brill, halibut, and soles. Herring and mackerel are also occasionally netted in very small quantities;

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but about 1,500 herring boats land vast quantities of herring during the months of July and August.

The average market prices are:

		s.	d.	
Turbot	per cwt. (112 pounds)	71	0	=$17.27
Lemon soles	do	48	0	= 11.68
Brill	do	43	0	= 10.46
Plaice	do	39	0	= 9.49
Halibut	do	35	0	= 8.52
Whitings	do	20	0	= 4.87
Haddock	do	12	6	= 3.04

The fish are disposed of at auction to fish merchants, to be sold fresh or to be smoked, pickled, dried, or tinned.

The wholesale fish merchants ship all over the country by rail. The principal markets to which consignments of fresh fish are sold on commission are Glasgow, London, Manchester, Birmingham, Liverpool, Leicester, Sheffield, Leeds, Bolton, Wigan, Blackburn, etc. Pickled, dried, and tinned fish are destined principally for export.

The nonmarketable fish are bought for conversion into manure and oil at 5s. ($1.22) per ton.

Fish are preserved fresh at sea by means of ice, and some of the trawlers also have refrigerating plants. Ice is the only medium used to keep fish fresh when dispatched to distant markets. I am informed that refrigerators can be introduced into each trawler at a very moderate cost.

The cold-storage capacity in Aberdeen is about 30,000 cubic feet, and can be increased with the demand.

ANDREW MURRAY,
Consular Agent.

ABERDEEN, *December 24, 1901.*

PROPOSED ELECTRIC RAILROAD IN SWEDEN.

The problem of employing electric power instead of steam for railroads receives more and more attention in Sweden. It is stated that the managers of the State railroads are making investigations in this direction, and a recent newspaper article announces that private concerns are also interested in the matter. A Gothenburg newspaper reports that the board of managers for the Falun-Vesterdalarnes Railroad Company has sent to the Government a petition for the gradual adoption of electric locomotives, instead of steam engines, throughout the whole country, and the utilization of water power. The petition mentions that a machine firm in Switzerland has made a proposition to use the Huber system, by which an electric current can be generated when a train passes down inclines, which current can be utilized by other trains on the same

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road. The Swiss firm proposes to furnish the necessary rolling stock, a Swedish company will supply the electric power, and the railroad company is to furnish railroad lines for the experiment. But cash is still needed for the building of transformers, for raising the current to 16,000 volts and changing the same from three-phase current to two-phase, for electric connection of the rails, etc., all of which it is estimated will cost 100,000 kronor ($26,800). The petitioners ask the Government to furnish the money needed.

ROBERT S. S. BERGH,
GOTHENBURG, *January 13, 1902.* *Consul.*

NEW RUSSIAN PORT DUES.

New regulations concerning Russian harbor dues have just been announced, to take effect January 1, 1902, which will greatly facilitate the present system of levying such dues in Russia. Henceforth, there will be only two kinds of port dues, namely, that to be paid by all ships entering Russian harbors, and the so-called "pood due," to be levied only in the Russian harbors named in the Russian act on the subject. The "ship due" amounts to 10 kopecks (5 cents) per ton for each ship of a nation which has concluded commercial and navigation treaties with Russia, and 2 rubles ($1.03) per ton for other ships. Moreover, the Minister of Finance is empowered to raise this rate for ships of certain states, and, doubtless, such an enhancement will be enforced against nations which have tariff difficulties with Russia. The rate was doubled during the Russo-German customs war in 1893, to the injury of German navigation, especially in the Baltic.

Russian ships have to pay the due of 10 kopecks per ton only once during a navigation season. The "pood due" in the ports mentioned by the Russian act ranges from one-fourth of 1 kopeck (1.3 mills) per pood (36.112 pounds) for corn, hay, straw, chalk, etc., and one-half of 1 kopeck (2.5 mills) per pood for all seeds, hemp, oil cakes, etc., to 1 kopeck (5 mills) per pood for all other products imported into Russia. It is to be levied on the weight mentioned in the bills of lading.

W. R. HOLLOWAY,
ST. PETERSBURG, *January 18, 1902.* *Consul-General.*

The text of the regulations is given by Commercial Agent Greener, of Vladivostock, in a report dated December 20, 1901:

(1) Tonnage dues will be paid at the rate of 10 kopecks (5 cents) per ton on ship's registered tonnage.

(2) On all ships belonging to foreign countries having no commercial or navi-

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gation treaties with Russia, tonnage dues will be paid at the rate of 2 rubles ($1.03) per ton on gross tonnage registered.*

If the port charges on Russian ships in any of the aforesaid foreign countries exceed 2 rubles ($1.03) per ton on the ship's register, the Minister of Finance has the right to increase the tonnage dues in Russian ports on ships of such nationalities.

(3) Registered tonnage is taken from the certificates of measurement according to the statutes—Nos. 124 and 125, Commercial Law, edition of 1893.

(4) Vessels under the Russian flag trading between Russian ports, lying on separate seas, and those which maintain regular service between Russian and foreign ports, must pay tonnage dues only once during the year. The dues in such cases are collectible at the first Russian port visited.

(5) On vessels trading between Russian and foreign ports, tonnage dues are to be collected on each voyage on arrival and departure.

(6) Vessels not liable to tonnage dues: (*a*) Men-of-war; (*b*) vessels occupied in laying and repairing telegraph cables; (*c*) vessels, under the Russian flag, trading at Russian ports in the same sea, or those coming from interior waters; (*d*) Russian vessels under 20 tons register; (*e*) vessels calling at ports not loading or discharging; (*f*) vessels belonging to Russian yacht clubs; (*g*) vessels trading in the Caspian Sea; (*h*) vessels belonging to inhabitants of Archangel district, employed in fishing or hunting.

In the ports of Azof, Akermann, Anapa, Archangel, Astrakhan, Baku, Batum, Berdiansk, Varvarofski wharf, Vindawa, Vladivostock, Genichetsk, Eupatoria, Eisk, Ismail, Kertch, Kili, Krasnovodsk, Libau, Marioupol, Narva, Nakhchivan, Nicolaeff, Novorossisk, Odessa, Pernau, Petrofski, Poti, Revel, Reni, Riga, Rostoff, St. Petersburg, Sevastopol, Soukum, Taganrog, Temruk, Kherson, Yalta, Theodosia, and at the Cossack stations Gnilofska and Tamauski, a special charge will be made on every pood of cargo exported and imported by sea, viz:

(1) A charge on each pood of cargo imported and exported: (*a*) One-fourth of 1 kopeck (1.3 mills) on each pood (36.112 pounds) of cargoes—grain, hay, straw, clay (except paint clay), chalks, lime, cement, alabaster, stone (except precious and marble), coals, coke, naphtha (raw), refuse of naphtha, minerals, iron ore, common bricks, salt, firewood, plaster stone; (*b*) one-half of 1 kopeck (2.5 mills) per pood on merchandise—different seeds, flax, hemp, waste, oil cakes, flour, groats, forest materials (except rare trees), and coal tar; (*c*) 1 kopeck (5 mills) on all other goods.

(2) On cargoes sent from one Russian port to another, the charge on every pood will be one-third of that indicated by the statute.

(3) Cargoes free of charges are: (*a*) Cargoes transported within the limits of the port; (*b*) special military cargoes; (*c*) coal transferred for use of the military and naval departments; (*d*) common stones; and (*e*) salt imported to Baltic ports from the Black and Azof seas.

(4) Charges are made on goods according to manifests, without verification.

(5) The Minister of Finance has a right to decrease charges on goods of little value to the extent of one-fourth of 1 kopeck (5 mills) on each pood, and also to relieve them entirely from charges.†

All charges are to be paid into the local custom-house, according to instructions issued by the Ministry of Finance, in agreement with the Government comptroller.

*Note by Mr. Greener.—The first application of this law was made on a steamer of the Nippon Yusen Kaisha, and the amount was paid under protest on the part of the Japanese commercial agent. The money is still held, awaiting a decision from St. Petersburg. Several cases are cited of German ships paying the charge without protest. A verbal remonstrance was made for the *Kiangsi*, an American ship trading between Chefoo and Vladivostock, and the charge was not pressed.

†Note by Mr. Greener.—While the retaliatory tariff upon American goods is in force against all our manufactures, an effort is being made to have the Minister of Finance exercise his discretion under this section, to admit machinery in parts at the reduced or free rate.

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RUSSIA'S FINANCIAL AND COMMERCIAL CRISIS.

A report recently published concerning the depreciation of stocks of French and Belgian companies doing business in Russia indicates the effect on all classes of business of the financial and commercial crisis that has existed in this country during the past three years. On October 15, 1899, the stock-exchange value of the shares of ninety-eight Franco-Belgian companies was 1,316,332,000 francs ($254,052,076); on October of this year it had depreciated 59 per cent. Among the different industrial branches affected, the glass manufactures suffered very heavily; the aggregate capital of the metallurgical enterprises decreased 65 per cent. The shares of the Franco-Russian works fell from 55 francs ($10.62) to 2.50 francs (48 cents). The-stock exchange value of the shares of the Franco-Belgian concerns in the province of Ekaterinoslaf two years ago was 10,875,000 francs ($2,098,875); to-day, they are worth only 67,500 francs ($13,028). The Yermak Company's shares have fallen from 600 francs to 6 francs ($115.80 to $1.16). In the various building and constructive branches, the loss is 65 per cent. The gas and electrical companies' shares have fallen in value 61 per cent. The coal companies appear to have come out of the ordeal somewhat better, the value of their capital being reduced from 347,148,000 francs to 185,957,000 francs ($66,999,564 to $35,889,700), or a loss of 46 per cent.

W. R. HOLLOWAY,
Consul-General.

ST. PETERSBURG, *January 10, 1902.*

SUGAR PRODUCTION IN EUROPE.*

The International Union for Sugar Statistics† has just published the following results of its investigation, made in December, 1901, as to this year's beet-sugar crop in European countries. While these figures still are approximate estimates, they are considered to be as nearly correct as can be made before the final estimates are prepared at the end of the season:

* See also ADVANCE SHEETS Nos. 1187 and 1199; CONSULAR REPORTS No. 256.

† NOTE BY THE CONSUL.—The International Union is a combination of manufacturers of sugar in all European countries. In October, every sugar factory sends to the headquarters of this union all the information obtained during a certain week as to the amount and condition of the beets, sugar contents, sugar produced, etc. This is done again during a certain week in December, when the season is practically over. In will be seen that this system of collecting sugar statistics is almost perfect, and that its results must be reliable.

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Country.	Acreage allotted to sugar-beet culture.		Production of sugar beets.		Production of sugar.	
	1901-2.	1900-1901.	1901-2.*	1900-1901.	1901-2.*	1900-1901.
	Acres.	*Acres.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Germany	1,168,420	1,095,889	15,630,410	13,252,291	2,220,850	1,974,785
Austria	896,132	839,152	8,944,700	7,408,000	1,306,900	1,083,300
France	741,300	718,220	9,278,400	8,717,439	1,080,300	1,100,171
Russia	1,467,527	1,346,942	8,304,545	6,406,024	1,079,550	893,520
Belgium	170,252	167,071	2,509,000	2,463,000	325,000	320,000
Holland	120,091	115,384	1,483,000	1,225,000	200,100	178,100
Sweden	70,424	71,412	876,000	865,800	121,392	115,547
Denmark	37,065	34,594	44,300	398,258	57,500	50,760
Other		162,970			221,000	

* December estimate.

There will be apparently an overproduction of sugar in Europe, amounting to 1,000,000 metric tons in excess of the normal consumption, and the stock to be carried over to next season may be 1,500,000 tons. Of course, the effect of this is unprecedentedly low prices. In December, raw sugar was quoted at the Magdeburg exchange at 1.62 cents per pound. It would seem that the unprofitable business would check overproduction, but the entire beet-sugar industry of Europe is on an artificial basis.

Considerable anxiety is felt here as to the tariff the United States Congress will put on Cuban sugar.

As early as 1893, Cuba produced not less than 1,160,172 tons of sugar, which is about one-half the amount consumed by the people of the United States to-day. The troublous times of war reduced its sugar crop to 281,420 tons in 1899, but it has risen in the face of financial difficulties to almost treble that quantity within two years, and at the end of another year it is possible it may again reach 1,000,000 tons. With plenty of capital and labor and with improved machinery, there is every reason for the Germans to fear that Cuba will become the largest producer of sugar in the world.

HENRY W. DIEDERICH,

BREMEN, *December 16, 1901.* *Consul.*

AGRICULTURAL COOPERATIVE SOCIETIES IN DENMARK.

ANCIENT AND MODERN COOPERATION.

The principle of cooperation, as manifested in the common ownership of the soil and the common care of the cattle, is prehistoric in Denmark. While this sort of cooperation naturally ceased with the great agricultural reforms at the end of the eighteenth century,

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a new sort of partnership has taken form in the course of time and many associations have come into being whose aim is, through mutual help in purchase and production, to obtain the greatest possible profit for the producer. Partnerships of the latter description have had a rapid development during the last decades, a development illustrated by the method of handling the milk and the marketing of the cattle and swine. As regards the cooperative swine associations, it is worth noticing that by means of cooperative marketing, the money realized is distributed directly among the producers themselves.

COOPERATIVE DAIRIES.

The cooperative dairies are associations from which each member receives a dividend proportionate to the quantity of milk he has delivered. The first Danish cooperative dairy was put in operation in Jutland in 1882. There are now 1,032 of these dairies, converting about 1,800,000,000 kilograms (3,968,280,000 pounds) of milk into $35,500,000 worth of butter.

The dairies were erected and put into operation at a first cost of $7,000,000, the initial cost of each dairy varying from $2,000 to $10,000. The number of shareholders is about 150,000, an average of 146 for each dairy. The number of cows yielding the necessary milk is 858,000, each dairy receiving, on the average, milk from 832 cows. The aggregate production of butter in the cooperative dairies alone amounts to 130,000,000 pounds per annum.

The advantages of the cooperative dairies are evident. They have made it possible for the whole community of small farmers to produce butter of a first-rate and uniform quality, up to the standard required for export. They are, moreover, enabled to produce a greater quantity of butter from a given quantity of milk. There has been a stricter control of the productive efficiency of each animal, a strenuous effort for the improvement of the latter by better feeding, and a further improvement of the qualities of the soil.

The increased production of high-grade butter, resulting from the continual development of the cooperative dairies, is indicated by the surplus exported, which advanced from 19,000,000 pounds in 1879–80 to 153,000,000 pounds in 1900.

While the manor farms, owned by the wealthy proprietors, have for a long time produced butter of a high grade, which sold at high prices, it is only since the establishment of the cooperative dairies that the small farmers have been able to enjoy similar returns for their product. As more than three-fourths of the milk-producing stock is to be found on the small farms, the importance of these better prices to the country, as a whole, is obvious.

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The employment of strong food has also increased. The import of bran and oil cake for this purpose, which was valued at 5,000,000 to 6,000,000 kroner ($1,340,000 to $1,608,000) in the eighties, now amounts to 40,000,000 kroner ($10,720,000) a year. The bulk of this import comes from the United States.

Each separate dairy is under the management of a farmer or tenant. These vie with each other in the excellence of their product. The efficiency of the dairies has been greatly enhanced by the work of competent dairy experts or counselors paid by the Government, who are always ready to go where their services are required, to correct mistakes and remedy deficiencies in the manufacture.

While the cooperative dairies have been instrumental in raising the quality of the product and in bringing prosperity to the farmers, they have exercised an important influence in other provinces of agriculture, their success promoting similar associations in other departments of farm work.

BUTTER EXPORT ASSOCIATIONS.

In close connection with the cooperative dairies are the Danish Farmers' Butter Export Association, of Copenhagen, and the Cooperative Butter Factory, of Esbjerg, on the west coast. In the latter, the butter received daily from the dairies is packed and immediately exported to England. These two companies handled $4,000,000 worth this year.

J. C. FREEMAN,
Consul.

COPENHAGEN, *December 23, 1901.*

AGRICULTURAL RETURNS IN GERMANY.

HARVESTS.

The official crop statistics of Germany for 1901 have just been published by the Reichsanzeiger and differ somewhat materially from the estimates which have been thus far the only accessible information concerning the agricultural results of the year. From these definite figures, it does not however appear that the injury done to the wheat crop of the Empire by the severe, snowless winter was overestimated.

The entire yield of winter wheat was 1,927,994 metric tons of (2,204 pounds each), against 3,604,865 tons harvested in 1900, which latter was an average crop, both in respect to quantity and quality. The wide area of winter-killed wheat that was plowed up last spring

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facilitated an unusual sowing of spring wheat, so that the yield of that cereal was this year 570,857 tons, against 236,480 tons in 1900. The total German wheat crop of 1901 was therefore 1,342,314 tons, or 35 per cent below that of the previous year. The rye crop yielded 8,162,660 tons, a deficit of 387,799 tons, or 4.8 per cent less than that of the last preceding year. The crop of oats was an average one, the total yield being 7,053,153 tons, against 7,091,930 tons in 1900.

Spring barley was largely sown and produced a total crop of 3,321,102 tons, an increase of 318,820 tons.

The remarkable feature of the year has been the enormous potato crop of 48,687,261 tons, as compared with 40,585,317 tons gathered in 1900. This, again, was a reflex of the disaster which befell the winter-wheat crop—thousands of acres of winter-killed wheat having been plowed up in the spring and planted to potatoes as a last resort. Although phenomenal in quantity, the potato crop of this year was only moderate in quality, and not less than 2,419,951 tons, or 5 per cent of the entire yield, has been wholly or partially lost through blight, rot, and other diseases. Potatoes are largely used in Germany for making alcohol, and the equipment of nearly every large farm in Silesia and the northern provinces includes a "Brennerei," or distillery, for the manufacture of spirits.

The yield per hectare (2.471 acres) of the various crops was as follows, compared with that of the previous year:

Description.	Yield per hectare.		Yield per acre in 1901.
	1900.	1901.	
Wheat:	*Tons.*	*Tons.*	*Bushels.*
Winter	1.89	1.52	21.5
Spring	1.66	1.83	27.1
Rye:			
Winter	1.44	1.42	20.7
Spring	1.09	1.01	14.1
Barley	1.8	1.79	31.7
Oats	1.72	1.6	42.5
Potatoes	12.61	14.67	194.3
			Pounds.
Clover	3.75	3.75	3,187
Meadow hay	3.91	3.76	3,195

TUBERCULOSIS IN CATTLE AND SWINE.

Among the other interesting items of recent publication is an official statement of the percentage of tuberculous cattle and swine which have been detected and condemned at the slaughterhouses of Prussia during the past three years. The exhibit is as follows:

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Description.	Animals slaughtered.	Found tuberculous.	Percentage of tuberculous.
1898.	*Number.*	*Number.*	*Per cent.*
Cattle	1,155,035	166,826	14.4
Hogs	3,292,804	67,766	2
1899.			
Cattle	1,203,814	173,801	14.4
Hogs	3,764,010	80,166	2.1
1900.			
Cattle	1,329,823	199,274	15
Hogs	4,271,907	96,358	2.2

It thus appears that, notwithstanding the strenuous efforts of the sanitary authorities to restrict and exterminate tuberculosis in domestic animals, and the advanced scientific methods which are employed for that purpose, the percentage of diseased animals—both cattle and swine—is slowly increasing.

FRANK H. MASON,
Consul-General.

BERLIN, *December 30, 1901.*

GERMANY'S DEPENDENCE ON IMPORTED GRAINS.

The official statistics of cereal importations into Germany during the year 1901 have just been issued from the imperial bureau and have attracted unusual attention by reason of their direct and eloquent bearing upon the pending question of increased duties on imported breadstuffs.

From the official statistics, there is here condensed into concise limits a table showing the total German importations, in metric tons,* of the several cereals and wheat flour during the past year and the excess of imports over exports in each class during 1901 and the two last preceding years, viz:

Description.	Total imports in 1901.	Excess of imports over exports.		
		1901.	1900.	1899.
	Tons.	*Tons.*	*Tons.*	*Tons.*
Wheat	2,306,386	2,068,219	907,523	1,266,075
Rye	887,190	782,042	848,441	437,869
Oats	476,012	252,385	358,346	202,431
Barley	917,641	873,346	731,791	1,082,383
Corn	1,210,683	1,197,556	1,382,908	162,659
Wheat flour	40,884	10,222	222,283	9,217

* Of 2,204.6 pounds.

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From this it will be seen that in respect to all these grains, except barley, the excess of imports over exports is increasing from year to year. The conclusion is inevitable that German agriculture, under present conditions of tillage, falls short of being able to supply the people with breadstuffs, and that the importation of cereals increases about in proportion to the growth of population in the Empire. The import tariff of Germany was arranged to favor the milling interests of this country, and therefore promotes the importation of grain rather than flour, so that neither American nor Austro-Hungarian flour have been able to gain more than a nominal foothold in the German market.

FRANK H. MASON,
Consul-General.

BERLIN, *January 10, 1902.*

SAN JOSÉ SCALE ON AMERICAN APPLES.

The following paragraph is translated from the Dresdener Nachrichten, January 14:

The Ministry of the Interior reports to the Department of Agriculture that through the inspections conducted at the custom-house in Hamburg many cases have occurred wherein living San José scales have been found in American apples. On the 14th of November, in a towed barge from Bremerhaven, 376 tons of York-Imperial apples, which had come from New York by the steamships *Queen Louise* and *Kronprinz Wilhelm*, were found to be infected with living San José scales. On the 18th of November, the steamer *Bremen* brought a shipment of apples from New York, among which 470 barrels were found to be similarly infected. On the 22d of November the steamer *Maria Theresa* brought from New York apples among which three barrels of Newton Pippins were found to be infected with scale. All these condemned apples were retained in the free port of Bremerhaven and their reexportation ordered.

The above official information is given to show that the inspection of incoming fruit from the United States is careful and thorough, and it is worse than useless to attempt to export to Germany apples that are not absolutely free from any form of communicable disease. Most German scientists admit that even if living San José scale were imported into this country on fresh fruit, which is immediately consumed, the danger of infection to orchards from that source would be infinitesimal; others maintain that the San José scale, even if grafted upon German apple trees, would never survive and propagate in the climate of this country. However this may be, the Government will permit no chances to be taken, and every such effort to ship infected apples to this country only entails loss to the shipper and serves to injure the reputation of American fruit.

The subject is all the more important from the fact that the

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consumption of foreign-grown fruits in Germany increases from year to year, the total receipts in 1899 having been valued at 70,000,000 marks, which increased to 93,000,000 marks ($22,134,000) in 1901.

FRANK H. MASON,
Consul-General.

BERLIN, *January 15, 1902.*

BUSINESS DEPRESSION AND FOREIGN TRADE IN GERMANY.

The year has closed upon a depressed and anxious situation in Germany. There has been a slight temporary lifting of the clouds during the hilarity and joyous activity of the Christmas holidays, but this has brought no substantial or permanent relief. The reflections of the leading newspapers in reviewing the record of 1901 are, for the most part, gloomy and depressing. In commenting upon the generally unpromising outlook, the Berliner Tageblatt of December 30 says:

> The hopes of industrial circles for a betterment of the present conjuncture have thus far not been realized. On the contrary, the situation grows worse from day to day. The railway receipts for October, this year, were 3,500,000 marks ($833,000) less than those of October, 1900, notwithstanding the increased population and the extension of railway mileage. The freight traffic shows a decline of 5 per cent per kilometer. The manufacturers of machinery are living principally on their work for export to other countries. The exports reveal no perceptible decline; in some important classes they even show an increase. Since imports have perceptibly fallen off, Germany's balance of trade for 1901 will show a much smaller excess of imports over exports than that of the preceding year. Assuredly, this at least is a favorable indication for the business situation in Germany, the general character of which is vividly illustrated by the fact that in Berlin 180 firms in the foundry, machine, and electro-technical industries have appealed to the Prussian Ministry to give them work at the bare cost of production, in order to spare them from the necessity of further discharging their employees. Many people see in the low interest rate for money and the strong apparent inclination toward the emission of foreign securities the sign of a returning confidence and revival of enterprise; but whoever looks deeper will find in these facts the expression of deep-rooted mistrust in the economic situation of Germany. The spirit of industrial enterprise is, in spite of reduced wages of labor, practically dead, and it can not revive so long as the uncertainty concerning the future treaties of commerce remains.

While this somber description of the present commercial and industrial situation is no doubt substantially true, there is fortunately some reason to hope that it is in one respect overdrawn. It is not true, for instance, that the feeling of mistrust is increasing, or that it is as general and pervading as it was a month or six weeks ago. On the contrary, there prevails in well-informed circles an

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apparently well-founded belief that the worst is over. For eighteen months past German financiers and business men have lived in the fear of a general collapse, in which the Reichsbank, the Deutsche Bank, the Dresdener, and the other strong, ably managed monetary institutions which have battled so heroically against the current and aided scores of sound but weaker banks to weather the storm, would be forced to give up the fight, haul in their life lines, and leave the others to their fate. How serious this struggle has been will be indicated by the fact that the loss sustained through the depreciation of bank shares alone during the past year was estimated on October 1, 1901, at 2,000,000,000 marks ($476,000,000). The weekly organ of the Central Union for Commercial Geography, at Berlin, in its recent review of the year, notes as examples of the extreme fluctuations of certain banking securities the stock of the Dresden Creditbank, which in its best days was quoted at 182, but fell at the end of August, 1901, to 13.25; the Leipziger Bank shares dropped from 194 to 9.75; the Mühlheim Bank, from 133 to 43; the Kummer Electrical Company, from 211 to 2.50; the Prussian Mortgage Bank, from 138 to 6.90; the Pomeranian Mortgage Bank, from 156 to 24.10; the Mecklenburg-Strelitzer Mortgage Bank, from 144 to 8.10—and so on through a long list. When to this is added the enormous losses through depreciation in the values of industrial stocks of all kinds—notably those based on the iron, steel, and electrical industries—it will be seen that German credit and resources have been, in the main, strong and sound to have stood such a crisis without a general collapse and widespread bankruptcy. The fact that the great banks of Berlin have come through the year with their strength practically unimpaired, and in a condition to continue their dividends, has contributed powerfully to begin the restoration of public confidence and convince hopeful capitalists that the worst is over. The vital fact is that the general collapse which appeared imminent last September seems to be no longer dreaded.

Among the signs which are thought to indicate that the lowest point of depression has been passed and the long, uncertain process of recovery begun, is the marked rise in various securities—notably certain bank shares—during the past two weeks. As an example of this, the stock of the National Bank for Germany—an institution with 60,000,000 marks ($14,280,000) capital, which was largely engaged in support of street-car lines and secondary steam railways—stood as low as 96.8 at the middle of November, but is now quoted at 105, for no other apparent reason than because confidence is returning and the prospects of all such railway property are looking up.

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But the most notable, because the most authoritative, testimony on this point is found in a lengthy interview with President Koch, of the Imperial Bank of Germany, which appeared recently in the Neue Freie Presse, of Vienna. The Reichsbank, as is well known, is one of the most powerful and ably conducted moneyed institutions in Europe. It is the sheet anchor of German finance in fair as well as foul weather Like the other leading German banks, it has devoted its energy, its capital, and its profound knowledge of affairs to the support and development of German industries and commerce with foreign lands. It has branch banking houses in all large German cities, through which it maintains a close, unerring touch upon the pulse of business interests throughout the Empire. When, therefore, the president of the Reichsbank—after a tour among its branch offices, and after having visited factories and boards of trade and studied local conditions at the principal centers of manufacture—says that the worst is past and recovery begun, his testimony is accepted as evidence of the highest class. President Koch says, among other things, that in the textile industry, including the silk manufacture, new life and spirit are manifest. The brass and bronze manufacturers of Wurttemberg are active and hopeful, and the vastly developed electrical industries, which have been hit so hard by the reaction of the past eighteen months, once more begin to feel the thrill of returning vitality. For the iron, steel, and coal interests, President Koch sees no prospect of an early recovery; but the building trades, which occupy more than 2,000,000 skilled mechanics in Germany, consider their outlook far more promising than it was on New Year's Day a year ago. Germany ranks second among nations as a buyer of American products. Whatever saps its prosperity and diminishes the purchasing power of its people weakens to that extent one of the most important foreign markets of the United States. From every point of view, moral or economic, it will be hoped that the reassuring predictions of the Reichsbank's president may be fulfilled by the event.

EFFECTS OF THE CRISIS UPON AMERICAN TRADE.

It remains to consider the effects of the depressed conditions which prevailed in this country throughout 1901 upon the import and export trade with the United States. The official German import statistics for the year are not yet available. We have only the figures for the ten months ended October 31. Comparing the imports of leading American products for the first ten months of 1901 with those for the corresponding period of the preceding year, the result is as follows, the statistics being given in metric tons of 2,204 pounds avoirdupois:

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Imports from the United States.

Article.	January 1 to October 31, 1900.	January 1 to October 31, 1901.
	Tons.	*Tons.*
Cotton	202,706	202,482
Cotton seed	2,653	3,415
Wheat	403,026	1,022,199
Rye	21,054	31,859
Barley	56,221	8,449
Corn	947,669	767,643
Oats	43,356	48,415
Lumber, timber, and staves	243,986	238,764
Copper	57,302	37,127
Nickel	409	242
Pig iron	16,502	10,708
Coarse castings	2,930	2,886
Cutlery and fine tools	187	125
Agricultural machinery	20,084	17,704
Electric machinery	274	267
Pumps and other machinery	4,075	3,078
Typewriters	40	69
Sewing machines	1,411	1,163
Bicycles and parts	114	77
Shoes, fine	39	55
Leather, and manufactures of	415	332
Tobacco and raw stems	10,614	9,604
Pork meats and sausage	12,724	11,389
Salted beef	1,388	1,781
Canned meats	4,005	17
Lard	83,346	79,104
Oleomargarine	16,155	19,981
Oil cake	148,768	167,312
Kerosene	573,025	575,981
Mineral and lubricating oils	66,229	68,166

Aside from the drop in canned-meat imports—which was the direct result of the new and practically prohibitory regulations enforced in this country—the decline of 20,000 tons in imports of copper, and the somewhat marked falling off in corn, there is nothing startling or discouraging in the foregoing exhibit. The decline of more than 2,000 tons in imports of agricultural machinery was to have been expected as the result of the short crops of winter wheat and rye last year in Prussia, but the inflow of such leading staples as cotton and petroleum remained normal and steady, and the increase of 619,173 tons in the imports of American wheat during a period of ten months will easily balance all other deficits in the foregoing list.

EXPORTS TO THE UNITED STATES.

Returns from the thirty-two consulates in Germany show that the grand total of exports to our country during the calendar year 1901, as declared by shippers in invoices presented for authentication, was $99,616,731.73, a decrease of $3,567,922.68 as compared with the

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exports of 1900, which amounted to $103,184,654.41. These statistics have the merit of promptness, but they are always subject to the qualification that the values as declared by the shipper for entry and appraisement not only include costs of packing and invoice authentication, but may in some cases be understated. Moreover, these returns make no account of the large and growing export of goods to our country as postal packages in shipments less than $100 in value, which require no consular invoice, and therefore are not reported or registered at consulates. With these defects, however, these statistics are probably as nearly correct as those of the German Government, in which values are based on an estimated average market price for each class of goods throughout a given year.

The deficit of $3,567,922.68 in the German exports to the United States in 1901, as compared with those of the last preceding year, is more than doubly accounted for by the decline in sugar, which is exported from the consular districts of Magdeburg, Hamburg, Stettin, and its agency at Danzig, with occasional small shipments from the district of Cologne. The exports of raw and refined beet sugar from Germany to the United States were valued in 1900 at $16,332,552, but declined in 1901 to $7,827,349, thus creating in that one item a deficit of $8,505,203, which balances the general decline of $3,567,922 in the grand total of the year and shows that exports of general merchandise increased by $4,937,280 in 1901. When it is remembered that the whole export trade of Germany to the United States amounted to $83,191,015 in 1898 and to $90,916,778 in 1899, the slight decline of the past year from the high-water mark of 1900—due wholly to the aberrations of the sugar market—is, under all attendant circumstances, a result fairly satisfactory to this country. The exports to the United States from the consular district of Berlin, including the agency at Sorau, include fifty-six different articles, mostly manufactured merchandise and varying from albums and artificial flowers to Welsbach mantles and earthenware. The traffic in these articles grows steadily from year to year, the declared values of shipments from this district having been $5,327,179 in 1898, $6,633,882 in 1899, $6,673,356 in 1900, and $7,558,790 in 1901.

REMARKS.

If there is in the history of the present crisis in Germany one definite, pertinent object lesson for the study of other nations—especially the United States—it is the manner in which many of its industrial and commercial interests have been sustained and carried through this period of stagnant and inert local markets by a well-established and skillfully supported export trade. During the years of her prosperity, Germany had laid the foundations of her foreign

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commerce broad and deep. She has trained her young men for efficient commercial service in foreign lands and has subsidized new steamship lines and sent her ships, bearing not only her manufactured goods but her banking capital, her engineers, and her constructers to the remote regions of the earth. In some instances, this may have been done unwisely or to excess; in others, the profit may be meager and long deferred; but, broadly speaking, the reward of all this wise foresight and careful preparation has already come. As the Tageblatt says in the article quoted at the beginning of this report:

> Our exports reveal no decline, but in some important respects they even show an increase. The manufacturers of machinery are living principally on their work for export to other countries.

The exports of iron and steel during the first six months of 1901 exceed those for the same period in 1900 by 250,000 tons, or 33.6 per cent, and, as a despairing ironmaster of Westphalia has recently declared in an appeal to the Government against the threatened increase in grain duties, "our export trade is the last, best, and only living thing that we have left." It is doubtless true that some of the merchandise exported during the past year has been sold at prices which yielded little if any profit to the manufacturer, but the sales have enabled him to clear away accumulated stocks, recover the cost of labor and materials, and keep his operatives employed, even though at reduced hours and wages. The logical effect of the whole situation is to inspire with new determination those who, in the pending conflict of interests in fiscal legislation, stand for adherence to the policy of commercial treaties based upon reciprocity, the policy which, entered upon a decade ago, ushered in the golden age of German expansion, progress, and prosperity.

Meanwhile, the revised tariff act, after ten days of debate, which served to show the radical and apparently irreconcilable differences between its advocates and its enemies, was relegated on the eve of the holiday recess to a committee of twenty-six members, by which it will be considered, modified perhaps in some respects, and returned to the Reichstag at some future time—possibly in May next—for final enactment. From the composition of the committee, an affirmative report on the measure is considered assured.

The debate brought out with great clearness and force what was already plain to every close observer of German political economy—the keen, searching consideration which is given here to everything that relates to the legislation, the industrial progress, and the commercial expansion of the United States. Nowhere is it more clearly recognized than in Germany that the advent of the Republic as a world power of the first rank is the most momentous and far-reaching

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fact in the economy of the new century. American methods in mining, manufacture, agriculture, shipbuilding, and every change in our fiscal policy are made the subjects of careful and unremitting study Every friend of both countries will hope that out of the legislation and diplomacy of the next two years may come a broad, liberal, and comprehensive treaty, inspired and shaped by a clear, intelligent understanding of the mutual interests and interdependence of the two nations, under the influence of which the prosperity and reciprocal good will of Republic and Empire will be promoted and maintained.

FRANK H. MASON,
Consul-General.

BERLIN, *January 5, 1902.*

GERMANY'S FOREIGN COMMERCE IN 1901.*

The summary of Germany's import and export trade during the calendar year 1901 has been announced from the Imperial Bureau of Statistics with exceptional promptness this year, and still further confirms and emphasizes the deductions which were noted in a recent report† of this series, based upon export and import statistics for the period from January 1 to the close of last October.

The total bulk of German exports during the year was 32,363,495 metric tons, a decrease of 318,252 tons as compared with 1900, but 1,960,268 tons more than the exports of 1899. But the important fact is that, notwithstanding the low prices at which some German merchandise was supposed to have been sold for export last year, the total value was 4,759,407,000 marks ($1,130,738,866), a net increase of 6,806,600 marks ($1,524,866) over the exports of 1900 and 390,998,000 marks ($93,057,524) over those of 1899. This means simply that the proportion of valuable articles exported last year had increased rather than diminished. The increase lay principally in four articles, viz, iron, machinery, hides and skins, and chemicals and colors. So that notwithstanding a depressed and anxious year at home, the values of exports surpassed all previous records and aided powerfully to sustain whatever vitality remained in German industries.

In respect to imports, the grand total of 44,304,857 tons shows a decline of 1,606,942 tons as compared with those of 1900, and is 347,431 tons less than the imports of 1899. The imports of last year were valued at 5,967,017,000 marks ($1,420,150,046), which was 75,975,000 marks ($18,083,954) less than those of 1900 and 183,389,000

* Reports on the same subject have been received from Consul-General Guenther, of Frankfort, and Consul Bardel, of Bamberg.

† ADVANCE SHEETS No. 1256 (February 4, 1902).

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marks ($43,646,082) more than the imports of 1899. The principal increase was in grain and other agricultural products. Wheat imports alone reached 2,134,400 tons, an increase of 840,336 tons over those of 1900, whereupon the Berlin Tageblatt remarks that notwithstanding all agrarian promises and pretenses, the dependence of Germany upon imported breadstuffs was never so absolute as now. The sharpest decline appears in the imports of coal, iron, and lumber, which show a falling off of 1,064,244 tons of coal, 582,445 tons of iron, and 545,974 tons of wood. A connected summary of the comparative imports and exports for each year since 1893, inclusive—the period of national development under the commercial treaties of the Caprivi régime—presents the following interesting exhibit:

Year.	Imports.	Exports.	Excess of imports over exports.
1893	$983,908,660	$772,205,756	$211,702,904
1894	1,019,956,854	726,252,246	293,704,608
1895	1,010,574,418	814,977,450	195,596,968
1896	1,088,480,624	874,287,702	214,192,122
1897	1,150,228,058	906,335,178	243,892,880
1898	1,303,680,224	952,415,548	351,264,676
1899	1,376,503,464	1,039,681,342	336,822,122
1900	1,438,234,000	1,131,214,000	307,020,000
1901	1,420,150,046	1,132,738,866	287,411,180

There has thus been a decline of $20,608,820 in the excess of imports over exports, as compared with the same returns for the previous year. How little this has to do with the prosperity of a country like Germany or Great Britain—manufacturing nations which import a large portion of their raw materials and food products—is here shown by the fact that Germany's highest adverse balance of trade was developed during 1898, 1899, and 1900, the three years when the trade activity of the country was at its zenith.

It is something, however, for Germany to look back over the past twelve months of depression and discouragement and reflect that while her imports have declined by $18,083,954, her exports have increased by even so small a sum as $1,524,866. Surely, here is an object lesson to enforce the wisdom of building up in years of abounding prosperity a foreign trade which shall remain as a life-preserver during the succeeding period of reaction and languid demand in home markets.

FRANK H. MASON,
Consul-General.

BERLIN, *January 20, 1902.*

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GERMAN IMPORTS OF AMERICAN MEATS.

The imports of American meats into Germany have greatly decreased since they reached their highest point in the year 1898. According to official statistics, their value for 1897 was 21,500,000 marks ($5,117,000); for 1898, 39,700,000 marks ($9,448,600); for 1899, 28,600,000 marks ($6,806,800); and for 1900, 17,900,000 marks ($4,260,200).

Of these respective amounts, bacon, ham, and salted or otherwise preserved pork together constituted 16,100,000 marks ($3,831,800), 31,800,000 marks ($7,568,400), 21,300,000 marks ($5,069,400), and 9,700,000 marks ($2,308,600); and sausage, 1,200,000 marks ($285,600), 3,800,000 marks ($904,400), 3,800,000 marks ($904,400), and 3,200,000 marks ($7,616,000), respectively, for the years given.

Since the German prohibitory law, which went into force on October 1, 1900, the importation of sausage and canned meat has entirely ceased; on the other hand, the imports of bacon and other kinds of pork, with the exception of hams, show an increase during the year 1900 and the year 1901. During the first ten months of 1901 there were imported from the United States into Germany 73,555 double centners (16,218,877 pounds) of pork and 9,918 double centners (2,185,927 pounds) of hams, and 30,433 double centners (6,707,433 pounds) of other preserved pork.

By a law which was ordered to be put in force April 1, 1902, an official inspection of all imported meat will take place in Germany, and a microscopical inspection in America will no longer be looked upon as a condition for import. That this law will be enforced in April does not seem likely. At the present time the Bundesrath is busy with the details for carrying the law into effect. On December 21, 1901, it referred to committees the list of the places for the entrance and inspection of meats.

TALBOT J. ALBERT,
Consul.

BRUNSWICK, *January 3, 1902.*

THE IRON INDUSTRIES OF GERMANY.

IRON ORE.

The principal iron-ore deposits of Germany are situated in Silesia, Thuringia, Hanover, Lorraine, Westphalia, Saxony, and the Rhine province. There are about 1,500 mines or shafts in operation, which give employment to 40,917 miners.* In 1899, the total output of iron

*Exclusive of miners employed in the coal, salt, zinc, lead, copper, and silver mines.

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ore was estimated at 17,989,700 tons, valued at $16,707,600. Of this amount, 3,247,888 tons were exported, chiefly to Belgium and France. In 1900, 4,107,840 tons were imported into the German Empire, fully 75 per cent coming from Sweden and Spain.

GENERAL CONDITIONS.

The iron market in Germany underwent great fluctuations shortly after 1873. This was caused principally by overspeculation, and a change for the better was first noticeable about 1880, when the German Government took charge of the railways. The wonderful development of electricity as a traction power within the past ten years has made itself felt among the iron industries all over the Empire

The present outlook for the iron industry in Germany is not bright. Manufacturers, on the whole, are not building new factories or enlarging the old ones. During 1900, the shipbuilding industry flourished as never before, but now even this shows signs of falling off. It is only in the navy-yards that the activity has continued unabated, the passage of the naval bill by the Reichstag in 1900 having created a demand for iron for fifteen years to come. The real causes of the present depression are the increase in the price of coal, coke, and iron ore, and the advance in wages—these coming at a time when the condition of the world's markets, agitated by political events in South Africa, China, and South America, was not favorable to an advance in the price of iron products.

IRON WORKS.

In 1894, there were 208 iron foundries and smelting works in the German Empire, which gave regular employment to 24,110 skilled laborers.* In 1899, the total output of crude iron was 8,120,000 tons. These figures were exceeded during the same year by Great Britain, with 9,450,000 tons, and by the United States, with 13,840,000 tons. The other iron-producing countries of the world are as follows:

	Metric tons.†
France	2,525,000
Russia	2,500,000
Austria-Hungary	1,430,000
Belgium	1,000,000
Sweden	530,000
Spain	260,000
Japan	20,500
Italy	12,400

*It must be understood that these figures include only those employed in the actual production of raw iron from iron ores. The total number of persons employed in all the mines (including all those in footnote on page 579) and iron and steel works of the German Empire is 567,753, of whom 15,577 are females.

†Of 2,205 pounds.

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Of the output of iron in Germany during 1899, only 6½ per cent was of the Bessemer process, while 55 per cent was of the Thomas process. The manufacture of puddled iron in the Empire is on the decrease, but for welding purposes it is still very much in use.

Iron is produced cheaper in the United States than in any other country. This is due to the fact that the ore mines, with the exception of those of Sweden, are richer than any as yet discovered in Europe; also to the up-to-date machinery employed and the cheap rail and water transportation rates.

In the valley of the Saar, and in Peine-Ilsede, Germany enjoys very favorable conditions for the production of iron. One disadvantage in connection with the iron works situated in the Ruhr Valley is the reshipment of ores from the Rhine to the different points of consumption. If the freight rates between the United States and Germany could be sufficiently reduced, it would not be impossible for American producers to develop a regular raw-iron export trade to Germany. In 1899, large quantities of American pig and cast iron came over as ballast. American wrought and rolled iron is superior to the German product, and for that reason is imported in considerable quantities.

FOREIGN COMMERCE.

Germany's foreign commerce in iron and iron products of every description and quality was, for 1900, as follows:

Product.	Exports.	Imports.
	*Metric tons.**	*Metric tons.**
Old and waste iron	61,096	100,383
Angle iron	215,641	827
Loop iron and ingots	33,627	2,778
Pig and cast iron	129,409	726,712
Plowshares and welding iron	172,533	37,809
Wire tack	46,906	120
Iron rails	155,656	343
Iron wire	169,839	8,711
Railway material, trucks, etc	48,236	2,170
Iron pipes	39,756	20,262
Articles made from cast iron	30,284	2,341
Crude iron	196,759	45,348
War material, cannon, balls, etc	2,734	7
Marly iron, quartz, etc	822,840	386,028
Miscellaneous	40,950	18,963
Total	2,166,266	1,352,675

*Of 2,205 pounds.

After England, Germany is the most formidable competitor of the United States in the iron markets of the world. Germany, however, is vastly better equipped in the technology of smelting than

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England, and in this respect is a rival worthy of our profound attention. The depression in the iron industries of Germany is due, besides the causes stated above, in a second degree to American competition. So keenly has this competition been felt within the past two years that experts are urging German producers to exert themselves to the utmost to prevent American iron manufacturers from displacing them in the markets of the world. The only means of averting this, it is claimed, is by technical education; nothing but the fine quality and character of the products themselves will save Germany's foreign commerce from being crushed beneath the weight of American consolidated capital and industrial combinations. Anyone familiar with the nine technical universities of Germany will admit that her methods of education and manufacture are worthy of emulation. In each of these universities, prominent attention is given to "Hüttenkunde," or the art of smelting, and every year a corps of young men is sent out well prepared to take positions as managers, foremen, or in any other capacity in the iron foundries and smelting works of the Empire.

TRADE OUTLOOK.

The prospects for American iron in the world's markets seem bright. The competition between England, Germany, and the United States for the supremacy in the iron markets of the British colonies, South America, and the Far East will become keener every year. In the long list of American industries which require great intelligence and skill, those of iron and steel stand at the head. The battle to win foreign trade is always a twofold one. When a market has been won, the fight to retain it begins. Our skilled workmanship, easy access to raw material, and up-to-date machinery are the weapons with which we will win these markets. Let us gird on the armor of technical education to defend and retain them.

ERNEST L. HARRIS,
Consular Agent.

EIBENSTOCK, *January 25, 1902.*

The following on the same subject has been received from Consul Schumann, of Mainz, under date of January 23, 1902:

While the entire exports of Germany decreased by 318,270 metric tons* during the past year, as compared with 1900, those of iron and ironware show an increase of 798,683 metric tons, while the imports of iron decreased 582,455 metric tons.

*Of 2,205 pounds.

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The reason of the increased export is to be found in the fact that as the demand in the home markets declined the producers sought to get rid of their increasing stock and sold for export, frequently without profit.

The following table shows the exports and imports of iron and ironware for the past five years:

Year.	Exports.		Imports.	
	Quantity.	Value.	Quantity.	Value.
	*Metric tons.**		*Metric tons.**	
1901	2,347,241	$144,418,400	400,657	$18,628,260
1900	1,548,558	114,147,180	983,112	32,703,580
1899	1,509,887	101,016,720	839,839	25,594,520
1898	1,626,130	86,510,620	523,808	17,473,960
1897	1,392,953	78,016,400	564,745	16,312,520

*Of 2,205 pounds.

GERMAN ARTIFICIAL CLAY.

Artificial clay, according to German papers, is receiving increased attention abroad. This ceramic novelty, which is used for the manufacture of artificial stone, tiles, gutters, etc., is composed of sand, chalk, cement, liquid glue, and petroleum. The substances are mixed in certain quantities and a claylike mass results, which can be formed at pleasure and acquires an excellent degree of hardness by being subjected to heat.

This artificial clay can be employed in a variety of structures; tiles of different forms and sizes are made of it. They have a perfectly even surface and sharp edges, are fireproof, and resist the influences of the weather; they furthermore absorb no moisture.

The clay is also used for the manufacture of artificial stone in all colors. Tests with this clay have been made at the laboratory of the Technical Experimental Station at Charlottenburg, and the results have been pronounced very favorable.

As the substances are easily mixed without the aid of machinery, the smallest builder can use the process and so obtain structural decorations at a low price.

RICHARD GUENTHER,
Consul-General.

FRANKFORT, *January 10, 1902.*

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BELGIAN GOVERNMENT RAILROADS.

The following data are taken from a report by the Minister of Railroads for the year 1900:

RECEIPTS AND EXPENDITURES.

During the year 1900 the State expended in establishing new roads, completing railways operated by the State, as well as increasing traction and transportation conveniences, the sum of 50,671,824 francs ($9,779,662.03), while the receipts amounted to 209,194,311 francs ($40,374,502.02), an increase of 7,965,092 francs ($1,537,262.76) over the receipts of 1899. This increase is attributed to the exposition at Paris, which attracted an unusual amount of travel. In 1900, expenses amounted to 140,428,194 francs ($27,101,641.44), which, compared with those for 1899, show an increase of 21,767,106 francs ($4,201,051.46). This result is pretty clearly explained by the rise in price of all important materials.

Other causes, such as renewing supplies, extension of traffic, increase of salaries and wages granted to the personnel of lines taken over by the Government, so as to place them in a position analogous to that enjoyed by their coworkers on the old Government lines, have also contributed toward increasing expenses.

During the year 1900, the rough receipts per kilometer (0.62136 mile) operated was 51,524 francs ($9,944.13), against 49,814 francs ($9,614.10) in 1899. Corresponding working expenses for the same period were 34,967 francs ($6,748.63), against 29,678 francs ($5,727.85) in 1899. Per train kilometer, the receipts were 3.5818 francs (69.12 cents), against 3.6174 francs (69.81 cents) in 1899; the working expenses were 2.4308 francs (46.91 cents), against 2.1552 francs (41.69 cents) in 1899.

The number of kilometers made by passenger trains in 1900 was 33,964,530 (21,104,200 miles), against 32,557,565 (20,249,968 miles) in 1899, and by freight trains 24,439,837 (15,185,938 miles), against 23,070,464 (14,335,063 miles) in 1899.

In 1899, the personnel of the Government railways numbered 59,226, which in 1900 was increased to 62,134 men.

LENGTH OF LINES.

The total length of lines in operation, December 31, 1900, was 1,592,222 meters (989 miles) of double track, and 2,467,861 meters (1,533 miles) of single track; total, 4,060,083 meters (2,522 miles). Steel rails represent 96.14 per cent of the total number of rails.

The steel rails employed in 1900 were valued at 127.50 francs ($24.61) per ton.

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ROLLING STOCK.

The effective material in December, 1900, consisted of 2,756 locomotives, against 2,688 in 1899; 1,834 tenders, against 1,750 in 1899; 7,155 passenger cars, against 6,956 in 1899; and 64,222 freight cars, against 60,548 in the preceding year.

PASSENGER AND FREIGHT TRAINS.

The number of passenger trains during 1900 was 927,019, against 896,671 in 1899; the number of freight trains for the same period was 669,705, against 644,366—which, with special and way trains, gives a total of 1,625,103 trains in 1900, against 1,567,904 in 1899.

NEW TYPE OF LOCOMOTIVES AND TENDERS.

The administration has adopted a new locomotive, with independent tender, for the purpose of giving greater rapidity to freight trains. This locomotive, provided with Westinghouse brake, can also be used in drawing accommodation passenger trains consisting of a considerable number of cars. This will also bring about a reduction in the number of types of locomotives now in use, a great facility in small repair work, in replenishing stock, and an economy in circulation, as passenger and freight trains may be classed in the same service. There has also been adopted for passenger traffic a new locomotive tender with four wheels, coupled at a distance of 1.8 meters (5.9 feet), and a "bogie" (truck) in front and axle bearer behind. This machine is to be employed in pulling trains over secondary lines not supporting the passage of a locomotive exceeding in weight 14 tons per axle, and also for trains over lines of moderate grade. It will replace various types of light motors now in use, as well as the locomotive tender of heavy tonnage, as the new machine is considered superior as regards strength and stability.

NEW TYPE OF PASSENGER AND BAGGAGE CARS.

After due consideration, the administration has ordered a new type of passenger car, having three axles, a lateral passageway permitting intercirculation, and also a model baggage car presenting the same characteristics. These cars are constructed so that the guards can circulate from the end and exercise full surveillance.

ELECTRIC-LIGHTED CARS.

Owing to the very satisfactory results obtained from the Stone system of electric lighting, now employed in 205 cars, it has been decided to extend its use to 141 additional new cars.

GEO. W. ROOSEVELT,
Consul.

BRUSSELS, *January 1, 1902.*

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OUTLOOK FOR AMERICAN SHOES IN HUNGARY.*

Budapest, a city of some 750,000 inhabitants, has as yet no representative of American shoes. That the American article would be well received there is no doubt. On questioning one of the shoe dealers here, I was shown an "order book" in which a number of customers had ordered their shoes to be made "American style."

The demand here for shoes is for the light article rather than the heavy. Pointed styles would not be acceptable. The cost of manufacturing the better shoes in Hungary is from 12 to 18 crowns ($2.44 to $3.65). These shoes have not the finish and durability of the American products. Shoes to be sold here should retail at from $4.06 to $6.09 (20 to 30 crowns) per pair. The duty on shoes of all kinds is 32.50 gold florins per 100 kilograms (about $15.60 per 220.46 pounds).

The principal import of shoes into Hungary is from Austria, and amounts yearly to about 20,000,000 crowns ($4,060,000). Some high-grade German shoes also find a market here.

The best way to introduce the American shoe into this market would be to send a representative to Budapest, preferably a salesman who speaks German, and who will stay long enough to establish an American shoe store or to select a local agent who is reliable and willing to work for the interests of the American manufacturer. If a representative can not be sent, advertising matter should be provided in the Hungarian as well as in the English language.

Hungary is compelled each year to import a very large number of shoes—that is, the home production is not sufficient to provide for the home consumption. There is no prejudice against American shoes and with able representatives and judicious advertising a good business can be established.

FRANK DYER CHESTER,

BUDAPEST, *December 23, 1901.* *Consul.*

THE CURRANT INDUSTRY OF GREECE.

In a recent circular letter addressed to the various prefects of the currant districts, the Greek Minister of Finance has given notice that the Australian tariff upon Corinthian currants has been reduced to 2d. (4 cents) per pound, while that upon Sultanas (raisins), figs, and dates is to be raised presumably to 3d. (6 cents) per pound. In a

* This report was prepared in answer to a request of the Board of Trade of Lynn, Mass., to which an advance copy has been mailed.

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sense, the new tax upon currants is not so much a reduction as it is a readjustment of former rates, which varied from 2 to 8 cents, according to the district, upon a uniform basis for the whole of Australia; but it will none the less work to the advantage of the currant industry in Greece.

Australia has never been a heavy consumer of the Greek product, although the last five years have seen a decided advance, until she now takes her place next to, but considerably below, the United States—the present season excepted, however, since both Holland and Germany have proved heavier purchasers, twice over, than Australia.

This increased exportation to Australia, however, has been more than counterbalanced by falling off in shipments to France and Russia. The former for many years consumed two-thirds as many currants as Great Britain, and in 1889 the enormous quantity of 70,000 odd tons was exported to France, an amount exceeding that exported to Great Britain by more than 20,000 tons. In 1896, as a result of the heavy duty imposed upon currants for protection to the wine industry, the quantity exported to France fell to 6,700 tons, and in 1900 to 1,000 tons, while Russia, after her decision against wine manufactured from currants in 1897, has dropped out of the trade entirely.

The above facts serve the purpose of calling attention to the need of Greece and to the relation in which the United States stands at present toward this need. Wider markets for the great export product of the country are manifestly imperative. A great percentage of the population of the Peloponnesus and of the islands adjoining, as well as of the coast part of Ætolia and Acharnania, is engaged in the currant industry. The retention law, which fixes a percentage of each year's crop to be withdrawn with a view of sustaining the market and of developing the wine industry with the surplus, will scarcely be able to accomplish this end, when large crops follow in successive years. While it is true that the success of a currant crop in Greece depends upon many conditions difficult to control, and, in consequence, the yearly output may vary sufficiently to regulate prices, it is equally true that greater efficiency in controlling these conditions is gained from year to year, and large and uniform crops are rendered more probable. This is a fact both desirable and, at present, perplexing; for with poor crops come hardships, and with large crops and an insufficient market profits are not commensurate with the labor expended.

Toward the large crop of the present year, the United States has assumed an attitude apart from most other countries, not by heading the list of consumers, which position England has occupied for many

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years, but by purchasing outright and not upon consignments, thereby doing much to keep the market beyond the control of speculative schemes. In my report upon the commerce and industries of this district,* forwarded shortly after the shipments had begun, some mention was made of this fact by way of suggesting that the coming year should afford a very favorable opportunity for placing American goods on this market. The only appreciable change since then is an augmentation of the same conditions. The indebtedness of the United States to Greece for this season's currants exceeds $1,000,000. One-half this amount could be paid by furnishing Greece with the sulphate of copper consumed yearly by currant growers, not to mention the coal, the iron and steel, mechanical and electrical supplies, and numerous smaller items which come from without. This is the time for reciprocal trade relations, and as a matter of business American shippers should take advantage of the situation to become competitors for a share of the trade which at present is under the control of a few European countries. Quality, as well as price, is playing an important part in this market, as shown recently by the decision of the Currant Bank of Greece concerning the quality guaranty of the copper sulphate to be imported; and such American goods as have found their way to the Greek market, whatever may have been their cost, have at least the recommendation of "good quality." Small as the Greek market is, when compared with the larger European countries, it has a greatly augmented importance when controlled from the Western Hemisphere, in that it materially contributes to American trade supremacy in Europe.

F. W. JACKSON,
Consul.

PATRAS, *December 30, 1901.*

AMERICAN SULPHATE OF COPPER FOR GREECE.

In confirming his recent telegram to the Department announcing that a United States firm had been awarded the contract to supply 500 tons of sulphate of copper to the Currant Bank of Greece,† Consul Jackson, of Patras, January 6, 1902, says that in all seven bids were received, representing American, English, German, and Belgian firms. The bid of the successful American company—$45,015 for the 500 tons c. i. f. Patras—was $5.84 per ton lower than that of the nearest competitor. When the results of the bids were made public the following day, negotiations for 300 additional tons were begun by private firms, and, in the opinion of the consul, the United States will capture this year a large percentage of the

* To be published in Commercial Relations for 1901.
† See ADVANCE SHEETS No. 1244 (January 21, 1902).

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Greek market for this product—a market worth, at a low estimate, $450,000.

The consul adds that the success of the American offer was wholly unexpected by the European companies, several of which were of the belief that their prices had been cut so close as to render competition improbable. In fact, the American product was not considered at all, on account of the exacting conditions governing the contract and the high trans-Atlantic freight rates.

TRADE-MARKS IN ITALY.

The French papers have just published a decision of an Italian court on the subject of trade-marks, which may be of interest to Americans.

A suit had been brought against four Italian firms for selling mineral waters in bottles bearing labels indicating that they were from some famous springs, such as Vichy or Carlsbad. The court decided that a trade-mark consisting of the name of a city or the geographical name of a country or section of a country could not constitute private property.

The principal trade journal of Lyons says of this ruling:

> In pursuance of this decision, the trade-marks "Cognac" and "Champagne," so common in France, belong to anyone who wishes to use them. We hope that a suit will be brought in Italy to carry this case farther. The wine growers in the Department of Champagne have successfully prosecuted Frenchmen in Saumur and other places, and they ought to prosecute this case.

According to this decision of an Italian court, the trade-marks "New York," "Cleveland," "Grand Rapids," "Chicago," and "Milwaukee" are of as much value to Italians as to the citizens of those places.

JOHN C. COVERT,
Consul.

LYONS, *January 15, 1902.*

MARKET FOR PHOSPHATES IN SPAIN.

The trade in phosphates keeps steady pace with the manufacture of fertilizers. The article is also largely employed in making dynamite and other explosives.

Up to the present, Algeria has furnished almost the entire supply from its vast deposits near the Tunisian frontier, the phosphates being shipped from the port of Bone, usually in a ground state, as, I believe, only one or two firms in Spain possess the necessary grinding plant.

Small sailing vessels bring the phosphate to this country in the two strengths of 58 to 63 per cent and 63 to 70 per cent of tribasic

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phosphate of lime; and as with a favorable wind these vessels can be depended on to reach a Mediterranean port in three or four days, and can be chartered at freights varying from 6 to 7 francs ($1.158 to $1.351) per ton, the advantage of the Algerian over the American phosphate in this respect is at once apparent. Manufacturers are at the same time fully alive to the value of the Florida rock phosphate, but as I understand this is at present shipped in the rock only, consumers of phosphate unprovided with grinding plant are unable to use it—a fact worthy of consideration on the part of shippers from the United States.

Notwithstanding the drawbacks of distance and heavy freights, the Florida article has a certain consumption in Spain, and has given such good results in one or two instances that some manufacturers have decided to use it altogether in future.

Business in phosphates is likely to increase, and I am informed that important works are in course of construction in one of the northwest provinces, which will require a large supply of the article. Our shippers should therefore carefully study the question of freights, and if these can be reduced so as to compete with those from Algeria, America may look forward to a good share of this trade.

JULIUS G. LAY,
Consul-General.

BARCELONA, *January 7, 1902.*

FRENCH TRADE WITH MOROCCO.

The French minister to Morocco reports that the importations of Lyons silks into Tangiers fell off some $8,000 in 1900, as compared with 1899, when they were valued at $38,880. The minister believes that certain kinds of French goods have been imitated by German manufacturers and stated to be of French origin.

The sales of French silks declined in Casa Blanca, also, from $25,300 in 1899 to $17,600 in 1900.

A French consul in Morocco expresses the regret that French manufacturers do not attempt to imitate the silk foulard which finds a ready sale at Fez and in all the coast cities. He says that England has monopolized the market for candles in Morocco and that Frenchmen are making no effort to get it.

Morocco sells to France goat and sheep skins, wools, and almonds.

Wool sent from Morocco to Germany is returned to that country in the shape of china satin. This article finds a ready market, and is used as an outer garment for the well-to-do Arabs.

JOHN C. COVERT,
Consul.

LYONS, *January 17, 1902.*

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GERMAN ENTERPRISE IN CENTRAL AFRICA.

A company is being organized in Germany (to be known as the Central African Lakes Company) to create a regular transport service from the coast to Lake Nyassa and thence to Lake Tanganyika, employing 8,000 native carriers. A contract has already been made with the Transcontinental Telegraph Company for the transport of the telegraph materials which will be required for the construction of the line in German territory.

The company will also be intrusted with the work of transporting goods for the German Government, for the Kongo Free State, and for the Katanga Company, as well as for the numerous missionary stations in the country over which it is to operate.

On lakes Nyassa and Tanganyika, two German steamers and several dhows will be employed, and it is expected that the trade will prove highly lucrative. The company also proposes to exploit the gold fields and coal deposits in German East Africa, and to develop the salt and nitrate industry in this territory.

JNO. F. WINTER,

ANNABERG, *January 10, 1902.* *Consul.*

OPENING OF THE LOURENÇO MARQUEZ RAILWAY TO CIVIL TRAFFIC.

Consul Hollis reports from Lourenço Marquez, December 21, 1901:

The governor-general of Mozambique and the British military authorities have finally arrived at an understanding in regard to through civil traffic over the Portuguese and Transvaal sections of the Delagoa Bay Railroad. I inclose copy of the text of the agreement. The director of the Portuguese Railroad informs me that thirteen cars, of 10 tons capacity each, will constitute a train.

This means that the Lourenço Marquez merchants will be allowed to ship each day 130 tons of merchandise by rail to the Transvaal. The opening of the road will benefit this port. The agreement reads:

(1) The railway tariffs and the classification of goods on the Delagoa Bay line are to be the same as before the war. If, however, the tariffs and classifications on the railways from the Cape and Natal ports are modified in the future, those on our line will be modified in proportion.

(2) The transport of civil merchandise and goods on the railway from this port into the Transvaal will commence immediately, the daily number of wagons for

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such merchandise not to be less than those forming a complete train. In the future, the number will be increased proportionately.

(3) No exceptions regarding individuals or nationalities will be made in the forwarding of goods. There will only be general rules, applicable to all.

(4) Goods in transit over the Delagoa Bay line will be treated in the Transvaal custom-house under the same rules and conditions as goods in transit from Durban and other coast ports.

(5) The Portuguese treaty with the Transvaal of 1875 remains in force, with the exception of the case of alcohol. All other articles produced in the province of Mozambique and the Transvaal will be admitted free, as before. Alcohol produced in the province of Mozambique will not pay higher duty than that produced in Natal.

The compensating concession made by the Portuguese authorities is their permission to the Transvaal to import native labor for the mines, from the province of Mozambique.

TRADE OF ABYSSINIA.

The Italian consul in Abyssinia has sent to his Government a report which is receiving attention from French business men. He says the population of Abyssinia aggregates 10,000,000 people, whose capacity of consumption merits the consideration of exporting nations. The inhabitants are disposed to adapt themselves to the arts of peace.

The products of the country, exclusive of cereals, are ivory, zibeth or civet, wax, hides, coffee, and gold, the latter mineral being said to abound in the mountains, where the mines have only just been scratched. These goods figure in the annual exports of the country at 5,000,000 francs ($965,000). The imports are but 3,000,000 francs ($579,000). The mass of imports consists of cotton goods. The report says:

In this article, North Americans have conquered the market against England, France, and Germany. * * * In spite of the high price of labor and the enormous cost of freight for such a distance, Americans have succeeded in capturing the trade by the low price of their products. * * * Different nations sell these goods, but they are all American made.

Silks, generally of an inferior quality, come from France. Guns, revolvers, and cartridges are imported from France and Russia in considerable quantities.

The Italian consul adds that he has been commissioned to buy some $30,000 worth of Italian silk for Abyssinians.

JOHN C. COVERT,

LYONS, *January 15, 1902.* *Consul.*

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NOTES.

Sailing Vessels in the Suez Canal.—Consul-General Long reports from Cairo, January 22, 1902, in reply to an inquiry from the Department relative to the extent the Suez Canal is used by sailing vessels,* that Comte Charles de Serionne, superior agent in Egypt of the Suez Canal Company, has given him the following information:

No sailing vessels have crossed the canal since 1874 or 1875, except during the time of the Turko-Russian war of 1877–78. At that time, sailing vessels arrived from Calcutta with Indian troops; but for the last ten years, no seagoing sailing vessel has crossed the canal. Sometimes trains of coal and materials, treated by the Suez Canal Company as sailing vessels, with the object of collecting the towing duties, have crossed the canal, but no sailing vessel engaged in high-sea navigation has crossed it within the period named. The absence of sailing vessels in the canal is explained by the difficulties of navigation in the Red Sea. The extraordinary number of sailing vessels lost in the Red Sea (which is full of dangerous reefs and shoals) during the years 1872–73 seems to have effectually discouraged further attempts. The officials of the Suez Canal Company believe that the construction of the canal, which was opened to navigation in 1869, has been an impetus to steam navigation throughout the world.

Freight Rates from Singapore.—Consul-General Williams reports from Singapore, December 31, 1901, that freight rates from that port to New York have materially declined. Two years ago, he says, the rates were 35s. ($8.52) a ton; now, three steamers at anchor in the roads in sight of the consulate are offering to take goods at 12s. 6d. ($3.03) per ton. He adds:

When we deduct the Suez Canal toll of 8s. ($1.95) per ton, there is left only 4s. 6d. ($1.09) per ton for net freight; thus, to-day, goods may be sent to New York at $1.09 gold per ton. To carry a ton of freight 13,000 miles for $1.09 is to make a record in cheap rates. It is all the more remarkable in view of the fact that this rate is offered only on goods direct to New York; the same articles sent via London would be charged 27s. 6d. ($6.69) per ton.

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* Made at the instance of a Member of Congress, to whom advance copy has been sent.

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Exhibit of Hydraulics and Navigation at Düsseldorf.—The Department has received from the German embassy, Washington, under date of February 13, 1902, notice of the Exposition of Hydraulics and Navigation to be held at Düsseldorf in connection with the Ninth International Congress of Navigation.

Owing to space and means being limited, the exhibition will, as far as practicable, be restricted to models, plans, printed works, photographs, and tables of general interest. The congress will hold its sessions from June 29 to July 5, 1902. Intending exhibitors are requested to make application as early as possible, sending the announcement of the objects to be exhibited, with their size, to the general secretary, Geheimen Baurath Sympher, Berlin W. 66, Wilhelm Strasse 80, by April 1, 1902. Objects to be exhibited are to be sent to, and removed from, the Tonhalle at the expense and risk of the exhibitor, as well as all special arrangements for display of goods, except tables and hangings, generally used for such purposes. Special information regarding exemption from duty for objects exhibited will be furnished as soon as the question is decided.

Blank applications and copies of regulations, sent by the embassy, are filed for reference in the Bureau of Foreign Commerce, where they may be consulted by parties interested.

Production of Belgian Coal, Iron, and Steel in 1901.—Consul Roosevelt writes from Brussels, January 29, 1902:

From the general statistics just published by the administration of mines, it appears that Belgium has 115 coal mines, or one more than in 1900. The total output of these mines amounted to 22,073,740 tons, or 634,892 tons less than in 1900.

The blast furnaces produced 86,190 tons of cast iron, 178,195 tons of pig iron, and 499,885 tons of iron for steel, a total of 764,270 tons, a considerable decrease as compared with the output of 1900, which amounted to 1,018,561 tons. The iron industry shows a more favorable condition, the output amounting to 69,660 tons of sheet iron and 336,785 tons of various kinds of iron, an increase of 50,528 tons over the production of 1900. The output of the steel works amounted to 526,670 tons of smelted products, lingots, etc., and 510,845 tons of forged material, rails, sheet steel, etc. The output in 1900 amounted, respectively, to 655,199 and 568,539 tons.

Foreigners in Government Service in Russia.—Consul-General Holloway writes from St. Petersburg, February 4, 1902:

This consulate is constantly in receipt of inquiries from young Americans as to the prospect of securing employment from the

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Russian Government as civil, electrical, or mechanical engineers or in public work. The Russian Government is gradually eliminating all foreigners from the public service. Formerly, there was a number of foreign engineers in the employment of the various railway corporations, but as these passed into the possession of the Crown the foreign employees were given the option of becoming Russian subjects or resigning their posts, and with few exceptions the latter alternative was adopted. Some railroads will only employ members of the orthodox church. For a number of years, an exception was made in favor of experienced naval constructers, artificers, and shipwrights who had been in the Government's service for a long time, but these have all been replaced with Russians, and the Government has now ordered private maritime companies to dispense with the service of all foreigners who refuse to become Russian subjects.

Population of Russian Cities.—Consul-General Holloway reports from St. Petersburg, January 31, 1902:

The last census of Russia, taken two years ago, shows that there are only three cities in the Empire whose population exceeds half a million, viz, St. Petersburg, 1,267,000; Moscow, 988,000; and Warsaw, 614,800. Odessa comes next, with 402,000; Lodz, 314,900; Riga, 283,000; Kief, 249,000; Kharkof, 171,000; Tiflis, 170,000; Wilna, 160,000; Tashkent, 157,000; and Saratoff, Kazan, Yekaterinoslav, Rostoff on Don, Astrakhan, Baku, Tula, and Kishenef with from 108,000 to 133,000 each. There are thirty-five towns containing between 50,000 and 100,000 inhabitants, and eighty-two towns with from 10,000 to 50,000. Yakutsk is the smallest in the list, with 7,000 inhabitants. Among those towns whose populations have grown most rapidly, Lodz, Russia's great textile-manufacturing center, stands first, having increased from 25,000 to 315,000 in fifteen years.

Crossing Lake Baikal in Winter.—Under date of February 1, 1902, Consul-General Holloway writes from St. Petersburg:

The difficulties encountered in crossing Lake Baikal in winter are shown by a published statement that the Trans-Siberian express, which reached Myssovaya—one of the termini of the lake passage—on January 5, was detained at that place for six days. The passengers were finally compelled to cross the frozen surface, a distance of upward of 30 miles, in open sleighs and on horseback, with the thermometer registering 27° below zero. The powerful ice breakers,

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built in England, are useless against the dense mass of ice, which owing to high winds overlaps and packs, making the surface extremely rough and almost impassable. It is not expected that the railroad around the lake will be completed under two years.

Minerals in the Urals.—Consul Smith reports from Moscow, January 31, 1902:

According to a statement of the mining department, the production of minerals in the Ural district for 1901 was: Gold, 570 poods (2,052 pounds); platinum, 380 poods (1,368 pounds); coal, 30,000,000 poods (500,000 tons). All the above figures show a decrease in comparison with 1900, and the metallurgical branch has also fallen off. The copper industry seems to be advancing, as several new works have been opened up for the production of this metal.

Roubaix Conditioning House.—Consul Atwell reports from Roubaix, January 30, 1902:

A new conditioning house of the Roubaix Chamber of Commerce, just opened, contains the latest improvements. The old system of hot-air ovens at a temperature of 120° and 130° has been abandoned for ovens heated by steam coils, at a temperature of 110°. It is claimed that the drying of the wool is perfectly even under this new system, there being no difference of temperature in any part of the apparatus. In the new conditioning house, there are 6 groups of 8 ovens each—that is, 48 drying machines, and the room is sufficiently large to accommodate 78. There are also preparatory ovens, heated by steam pipes, in which the wool receives a preliminary drying.

Competition of Alcohol Motors in Paris.—Under date of February 26, 1902, the Department has received from the French embassy, Washington, notice of an international competition of motors and apparatus using alcohol for generating motive power, light, and heat, to be held in Paris in May, 1902. This competition will include practical tests, after which medals and objects of art will be awarded, and it will be followed by a public exposition from May 24 to June 1, 1902. Programmes and application blanks (in French) are inclosed.* The competition includes: (1) Automobile boats; (2) lighting and heating apparatus; and (3) fixed motors, locomobiles, and motor groups. Requests of exhibitors not taking part in the

*Filed in the Bureau of Foreign Commerce. These will be distributed, on request, to parties interested, until the supply is exhausted.

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competition will be received until April 15, 1902. The exhibit will include, besides motors and apparatus using alcohol, apparatus producing industrial alcohol, receptacles for storing and transporting this product, apparatus worked by exposed motors, and compounds of alcohol. Sites for exhibition are free.

German Alcohol Production in 1901.—Consul Schumann sends the following from Mainz, January 29, 1902:

The production of alcohol in Germany in 1901 amounted to 107,250,000 gallons, against 96,500,000 gallons in 1900. The increase was caused in a great measure by the excessively large potato crop. At the close of the year there was a surplus of 14,250,000 gallons, against 8,500,000 gallons in the previous year, and prices consequently experienced a drop. As last year's potato crop was again exceptionally large, a further increase in the production is to be expected.

German Tariff on Paper.—Consul Schumann reports from Mainz, January 21, 1902:

According to a local newspaper, the corporation of Berlin booksellers has sent a petition to the Reichstag requesting that in the proposed customs tariff the import duty on paper manufactured from wood pulp be reduced to 3 marks (71.4 cents) per 100 kilograms (220 pounds avoirdupois), and on paper not manufactured from wood pulp to 6 marks ($1.43) per 100 kilogams (220 pounds). The reason given is that the paper manufacturers of Germany do not require any protective tariff, as 28 large companies, operating with a combined capital of nearly $12,000,000, have paid their stockholders dividends averaging 9.13 per cent during the four years 1897–1900.

German Copper Imports.—Under date of February 3, 1902, Consul-General Guenther, of Frankfort, sends the following data as to copper imports:

Year.	Total imports.	From United States.	From Great Britain.	From Japan.
	Tons.	*Tons.*	*Tons.*	*Tons.*
1901	58,620	42,422.6	7,653	3,158.1
1900	83,502.6	66,264	9,545.6	2,377.5
1899	70,091.4	47,742.7	14,350.4	3,050.6

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Education in Spain.—Consul Ridgely reports from Malaga, January 16, 1902, that, according to the statistical annual of the Council of Public Instruction, just published, there are 25,340 public schools in the forty-nine provinces of Spain, classified in the following manner: Nine thousand three hundred and thirteen for boys, 7,612 for girls, and 8,423 for children of both sexes. The number of children attending schools is 1,617,314. The province having the smallest number of pupils is the Canaries, with 10,538, and the one with the greatest number is the Asturias, with 66,715. The expenses of the public schools of the province of Madrid amount to 1,564,877 pesetas* ($200,000). The total number of private schools in Spain is 6,181, attended by 166,880 boys and 177,500 girls.

Shoe Pegs and Shoe-Peg Machinery in Eastern Turkey.—Consul Norton reports from Harput,† January 6, 1902:

Shoemaking is one of the most important occupations in this region. Wooden shoe pegs are used almost exclusively, and their preparation is the basis of an extensive industry. They are manufactured by hand, in the most primitive manner, from pine wood. I find, on inquiry, that there would be a good opening for simple types of our American machines for cutting such pegs. If manufacturers of such machinery will communicate with this consulate, forwarding catalogues of substantial, low-priced machines not requiring much mechanical knowledge on the part of the operator, I will promptly place the information in the hands of the parties interested. At the same time, I think that a market could be secured for our iron shoe pegs, if properly introduced. I would be glad to receive samples and price lists, and will bring them to the attention of local boot and shoe makers.

Small Steam Engines for Harput.—Under date of January 4, 1902, Consul Norton writes from Harput as follows:

A demand has come to this consulate for small, portable steam engines, 1 to 3 horsepower. They are desired to replace hand power in several of the local industries. Wood is the only available fuel. The entire plant, boiler and engine, should be compact and easily portable. The American agency here would gladly receive correspondence and price lists for such engines and boiler outfits, with agent's rates. Communications can be sent in the care of this consulate.†

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* The peseta, according to current rate of exchange, is equal to about 14 American cents.

† Post-office address, Mezreh, Mamouret-ul-Aziz, Turkey in Asia.

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Sealing Ships' Stores in Australia.—Consul-General Bray reports from Melbourne, December 15, 1901, that complaints have been made by masters of vessels of the action of the Government of Australia in sealing ships' stores between ports in the Commonwealth and imposing a penalty of £100 ($486) should a vessel sailing from one port to another arrive with the seals broken, though the greater part of the voyage be made outside the territorial limits of the Commonwealth. Duty is charged on all stores consumed on vessels in port and on the voyage between ports. In a case recently decided in the full court of Victoria, says Mr. Bray, the minister of customs sued the master of an English steamer for arriving in Melbourne with the seals which had been placed on the stores in Sydney broken, and obtained a verdict.* It is understood that an appeal against this decision is to be made to the Privy Council of England.

Demand for Wire Tacks in Melbourne.—Deputy Consul-General Hanauer transmits from Frankfort copy of a letter from a British agent of an Australian and New Zealand firm (address of agent, Hopetown House, Lloyds avenue, Fenchurch street, London, E. C., England) reading:

> My Melbourne friends, Messrs. McLean Bros. & Rigg, Limited, ask me to write you to request wire-tack manufacturers to submit samples and prices of goods. If you will kindly let me have some names, I shall be glad to mail them to my friends in the colony.
>
> FRANCIS CHAPMAN.

American Imports at Niuchwang.—Consul Miller sends from Niuchwang, December 31, 1901, a comparative list of the principal American imports into that port for the past three years, as follows:

Description.	1899.	1900.	1901.
Cotton goods:			
Drills ..... pieces...	584,877	116,525	546,498
Jeans ..... do.....	29,630	16,710	52,473
Flannel ..... do.....	21,743	360	28,184
Sheetings ..... do.....	1,101,765	426,113	980,001
Kerosene oil ..... gallons...	2,282,060	688,130	3,172,000
Flour ..... piculs...	†33,543	‡76,748	§55,470

*A newspaper account of the trial, inclosed by Mr. Bray, is filed for reference in the Bureau of Foreign Commerce.

† 4,472,400 pounds.

‡ 10,233,066 pounds.

§ 7,396,000 pounds.

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United States Railway Supplies for Nicaragua.—Consul Donaldson, of Managua, writes, January 11, 1902, that the Nicaraguan Government has signed a contract (dated December 15 last) with Mr. P. W. Chamberlain, an American engineer, to purchase 300 tons of steel rails and other fittings for the Atlantic Railroad, which the latter is constructing. It is stipulated in the contract that the above-mentioned material is to be purchased in the United States.

The consul adds that Mr. Chamberlain is at present pushing to completion the work on that part of the road connecting the Indio River with the San Juan River at San Francisco, from which point there is steamboat navigation.

Coffee Crop of Salvador.—Consul-General Jenkins writes from San Salvador, February 1, 1902, as follows:

The present coffee crop will not exceed 40,000,000 pounds. The yield for 1901 was 55,600,000 pounds. The deficit is due to the early rains, which fell soon after the harvest of last year and caused the coffee plants to blossom prematurely. This bloom, however, was destroyed by the north winds. Later, when the rains came in their proper season, the plants blossomed a second time, but very feebly.

Argentine-Chilean Boundary.—Under date of January 22, 1902, Minister Wilson, of Santiago, reports the settlement of the difficulties in regard to the territory in dispute between Chile and Argentina.* In recent notes exchanged between the Chilean minister and the Argentine Minister of Foreign Relations, the former explained that his Government understood that the regulation of the police service mentioned in one of the protocols referred to territories in which there were no police prior to September 22, 1898, and the Argentine Minister of Foreign Relations concurred. The pending incidents have thus been brought to a satisfactory conclusion.

Demonetization of Peruvian Silver Soles.—Mr. Neill, secretary of the legation at Lima, under date of January 18, 1902, transmits copies and translation of a decree of January 17, authorizing 500,000 soles to be smelted into silver bars at the Lima mint and

*ADVANCE SHEETS No. 1261 (February 10, 1902).

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directing that said bars be exported to Europe and sold for the purpose of buying gold, according to the decree of December 14, 1901, which says:

The President shall exercise his judgment in smelting to the amount of 1,000,000 silver soles, the value of which shall be replaced by Peruvian gold pounds.

Gas-Engine Plant in Monterey.—Consul-General Hanna reports from Monterey, February 3, 1902:

I am informed that James Meehan & Sons, an American firm with several iron plants in the United States and one at Monterey, have decided to establish here a plant for the manufacturing of gas engines. The capital to be invested will be $250,000 Mexican (about $113,000 gold). Gas engines are becoming very popular in Mexico and many are in use. The firm expects to manufacture all sizes and various designs.

Proposed Locomotive Works at Cornwall, Ontario.—Commercial Agent Hamilton writes from Cornwall, February 15, 1902:

A strong and influential movement is being made to get the Deering and American Locomotive Company, of Chicago, to establish its plant here. Twenty-five acres of land will be necessary, which will be readily supplied, as well as water power, exemption from taxes, etc.

Cornwall-Toronto Electric Road.—Under date of February 15, 1902, Commercial Agent Hamilton, of Cornwall, says:

A charter has been given to Boston capitalists to build an electric line from Toronto to Cornwall and a line from Brockville through Smith Falls to Ottawa, in all about 350 miles. The fund for this purpose will be $8,000,000, and the work will be pushed to an early completion.

Sugar Industry of the Dominican Republic.—Under date of January 27, 1902, Consul-General Maxwell, of Santo Domingo, sends clipping from the Listin Diario in regard to the sugar industry, in which President Jimenez is quoted as saying:

The Government is considering the advisability of abolishing the small tax of 3 cents on sugar; of placing empty sacks on the free list; of negotiating with the transport company for freight reductions, and for the lowering of wharf and warehouse charges; and of proposing to the United States Government a reduction of its duty on sugar, in exchange for a reduction of import duty on articles from that country.

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Establishment of a Coal Depot at Kingston.—Vice-Consul General Murphy, of Frankfort, says, February 4, 1902, that according to the Frankfurter Journal of even date the Hamburg-American Line has decided to establish a coal depot at Kingston, Jamaica, where not only its own vessels but others will be supplied with coal.

Italian Demand for Stearin.—Under date of January 30, 1902, Consul Johnson, of Venice, says:

The demand in this district for American stearin, paraffin, and tallow is increasing, imports for the last quarter having shown a decided advance. I am in receipt of a communication from Mr. Guglielmo Olper, Calle dei Barcaroli, 1731, of Venice, asking to be put in communication with exporters of these materials.

German Demand for Oil Cake, Bran, Etc.—Consul Kehl reports from Stettin, January 31, 1902, that he has been asked to furnish a local house with addresses of wholesale manufacturers of corn oil cake, corn bran, and gluten feed. Correspondence addressed to the consulate, says Mr. Kehl, will be delivered to the firm in question.

Electro-Magnetic Cannon in Sweden.—Under date of Christiania, January 25, 1902, Consul-General Bordewich reports:

Professor Birkeland (who two years ago was sent by the Government to northern Norway to study magnetism, the aurora borealis, and cloud formations) is engaged in the construction of a cannon with electro-magnetism as the motive power in place of explosives. A small model of the invention throws projectiles weighing a pound with great force.

Exposition of Sportsmanship at St. Petersburg.—Consul-General Holloway writes from St. Petersburg, January 18, 1902, that an international exposition of sportsmanship will be held at St. Petersburg during May, 1902. There will be sections devoted to automobiles, bicycles, aëronautics, rowing, horsemanship, athletics and games, hunting, sailing, and photography. The exposition will be held under the auspices of the benevolent society having charge of the Labor House for Cripples.

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Excise Dues on Salt in the Netherlands.—Under date of January 10, 1902, Minister Newel, of The Hague, sends translation of the royal order of December 27, 1901, providing for the exemption from excise dues of salt used in the preparation of bleaching lime by electrolysis, on the basis of the royal order of August 19, 1899.

Liberian Tonnage Dues.—Consul-General Smith reports from Monrovia, January 20, 1902, that he has succeeded in inducing the Liberian Government to secure the passage of a bill reducing the high tonnage rates (which operated more directly against American vessels, as European vessels usually carry Liberian mails) from 50 cents to 8 cents per ton.

Egyptian Medical Congress.—Consul-General Long, of Cairo, informs the Department, January 25, 1902, that the First Egyptian Medical Congress will be held December 19–23, 1903, instead of December 10–14.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) have been transmitted since the date of the last report to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
L. Edwin Dudley, Vancouver.	Feb. 3, 1902	Fisheries of British Columbia.	Fish Commission.
J. J. Langer, Solingen	Feb. 6, 1902	Child labor in Germany	Department of Labor.
Max J. Baehr, Magdeburg	Feb. 5, 1902	Price of food stuffs in Germany.	Department of Agriculture.
E. Schneegans, Saigon	Jan. 16, 1902	Rice-market report	Do.
W. P. Atwell, Roubaix	Jan. 21, 1902	Tuberculosis	Marine-Hospital Service.
W. T. Griffin, Limoges	Feb. 18, 1902	Prevention of smut	Department of Agriculture.
John P. Bray, Melbourne	Jan. 24, 1902	Immigration into Australia.	Bureau of Immigration.

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FOREIGN REPORTS AND PUBLICATIONS.

The Ethiopian Railway.—The following is summarized from the Revue du Commerce Extérieur, Paris, January 25, 1902:

Djibouti and Obock are two French ports of the Gulf of Aden, the former situated at the northern and the latter at the southern point of the Bay of Tadjoura. The French Somali coast, formerly called Obock, lies between the Italian Erythrea and the English Somali. Djibouti owes its origin to its strategic position at the southern entrance of the Red Sea; Obock, situated nearer the English island of Perin—which commands the entrance of the Red Sea—has had to be abandoned for want of potable water. It has been replaced by Djibouti, the terminus adopted by the caravans of Choa and Harrar. The present importance of this French colony is commercial; it is the natural port for the richest part of the Empire of Menelik. In time of war, it will be a coaling and revictualing station for French war ships. It is also the landing point of the submarine cables to Madagascar and to Indo China. Some years ago, a French company obtained the concession of a railway line from Djibouti to a point on the Ethiopian frontier, Addis-Harrar. The length of the line conceded is 185.2 miles; 124.9 miles are already constructed as far as Adagalla. Harrar is an important trading town in a prosperous agricultural country. The traffic comprises coffee, gold, ivory, and skins, and, as soon as cheaper means of transport are secured, it will without doubt develop and embrace a variety of new products.

In its issue of February 8, 1902, the Revue du Commerce Extérieur says:

Goods forwarded into Abyssinia are already sent by the Djibouti-Harrar line, which carries them more than 100 miles from the coast and has organized a caravan service on to Gueldeissa, the first Abyssinian custom-house, situated 40 miles on this side of Harrar. Goods are subjected, according to their weight, nature, and quality, to the conditions of packing habitually required for transport by caravan. The route by Zeila, which scarcely six months ago had a monopoly of this trade, is now more expensive; 240 to 260 kilograms (529 to 573 pounds) delivered at Harrar cost about $10, or considerably more than by the railway. This difference is due to the free entry accorded to goods sent into Abyssinia through the French colony. The prices for 240 to 260 kilograms (529 to 573 pounds) by this route are:

From Djibouti to Gueldeissa	$6.48
From Djibouti to Harrar	8.10
From Aden to Gueldeissa	7.45
From Aden to Harrar	9.07

Commerce of Tunis in 1900.—La Quinzaine Coloniale, Paris, January 25, 1902, has the following:

The foreign commerce of Tunis made a notable increase in 1899, when for the first time it exceeded 100,000,000 francs ($19,300,000). The total figures for 1900 were 104,074,433 francs ($20,086,366), of which the import trade was valued at

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$11,872,307 and the export trade at $8,214,059. The chief articles entering into the import trade were:

Imports for 1900.

Article.	Value.	Article.	Value.
Cereals (flours)	$2,382,371	Coal	$304,507
Tissues:		Raw materials for native textile industries	355,371
Cotton	1,222,933	Machinery (works in metal)	465,655
Woolen	196,287	Leather	323,225
Linen	191,817	Cement, bricks, tiles, etc	187,596
Silk	65,035	Clothing (haberdashery)	226,441
Chéchias	3,556	Petroleum	116,733
Sugar	405,643		
Coffee	110,413		

The importation from America was valued at $378,096, an increase of $193,000 over the figures for 1899. The imports from France and Algeria amounted to 62.9 per cent of the trade. The chief exports for 1900 were:

Exports for 1900.

Article.	Value.	Article.	Value.
Cereals	$2,164,832	Native manufactures	$418,360
Fishing industries	1,222,542	Vine products	161,391
Olive products	1,053,854	Live animals	365,632
Forest products	725,603	Animal products	405,397
Mining industries	807,107		

Of the export trade, France and Algeria received 60.15 per cent; Italy, 14.7 per cent; England and Malta, 13.85 per cent; Belgium, 2.05 per cent; other countries, 9.25 per cent.

Commerce of Morocco in 1900.—La Quinzaine Coloniale, February 10, 1902, gives the following statistics of the trade of Morocco for 1900:

The total commerce of Morocco for 1900 was $14,104,427. The importations were valued at $6,072,039 and the exports at $8,032,388. This trade was distributed through the different commercial ports as follows:

Port.	Imports.	Exports.
Tangier	$1,291,886	$1,823,915
Casa Blanca	1,402,626	1,910,122
Mazagan	1,592,718	1,866,045
Mogador	1,231,405	2,205,372
Larach	553,394	226,934
Total	6,072,039	8,032,388

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The distribution of trade according to countries for the port of Tangier was:

Country.	Exports.	Imports.
Spain	$791,907	$52,782
Great Britain	386,180	633,575
Egypt	319,190	.....
France	171,330	327,414
United States	120,154	.....
Germany	26,699	131,206
Italy	14,876	12,322
Portugal	10,565	.....
Tripoli	1,827	.....
Brazil	1,184	.....
Austria-Hungary	.....	73,950
Belgium	.....	42,780
Netherlands	.....	17,857

Industrial Conditions in Sweden.—The following extracts are taken from the Boletim Commercial, Lisbon:

FOREIGN COMMERCE.

The total foreign trade of Sweden in 1900 was valued at 567,243,000 crowns ($151,921,124), distributed as follows: Imports, 261,525,000 crowns ($70,088,700); exports, 305,718,000 crowns ($81,832,424), a balance of 44,193,000 crowns ($11,743,724) in favor of the exports. The statistics of 1899 show that while the imports have increased 10.9 per cent, the exports in the same time have increased only 3.8 per cent. The question of fuel has become an important one. The importation of pit coal is increasing every year; the quantity imported in 1900 was 40,268 metric tons, valued at 64,831,000 crowns ($17,374,708). It is true this increase corresponds with the development of the industries, but efforts are being made to replace it with peat, which exists in abundance. Inquiries are also being instituted as to the possibility of utilizing the waterfalls for electric power—adapting this force to the requirements of the enormous network of Swedish railways.

INDUSTRIAL STATISTICS.

The latest statistics available regarding the industries of Sweden are those of 1899, which give the number of manufactories and the value of production as follows:

Factories.	Number.	Workmen employed.	Value of products.
Sawmills	1,066	40,885	$37,442,559
Wood pulp	118	6,364	6,771,417
Joiner's work	287	9,433	5,256,416
Iron and steel	122	15,837	29,951,077
Mechanical shops	352	20,715	13,161,272
Foundries	555	18,740	14,695,276
Furnaces	141	.....	9,750,966
Weaving	173	14,857	15,099,734
Spinning	190	10,463	10,837,413
Sugar:			
Raw	16	4,560	5,973,114
Refined	9	2,665	11,590,817
Breweries	528	6,183	8,663,747

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Factories.	Number.	Workmen employed.	Value of products.
Distilleries	153	1,094	$15,926,487
Paper	60	5,513	5,254,961
Tobacco	97	4,535	4,230,164
Brick and tiles	532	11,183	3,072,161
Tanyards	557	2,507	3,080,351
Shoes	38	2,963	2,790,589
Iron mines	321	9,063	3,600,646

No mention is made in this table of food products manufactured from milk, as these factories are not included among those compelled to give annual statistics. At the same time, the importance of this industry is shown in the export statistics, of which butter represented 42,246,750 pounds, valued at $9,809,068, and cheese, 9,921 pounds, valued at $804.

The chief imports into Sweden in 1900 were:

Article.	Quantity.	Value.
Cereals ..... metric tons	312,042	$9,290,488
Coal ..... do	40,268	17,374,708
Tobacco, leaf ..... do	3,389	1,450,416
Machinery and tools	.....	4,706,044
Flour ..... pounds	32,143,068	598,176
Cotton ..... do	37,936,757	2,674,908
Tissues ..... do	3,467,836	1,659,188
Wool ..... do	9,007,996	2,857,952
Woolen tissues ..... do	3,851,436	3,595,756
Silk tissues ..... do	274,914	1,135,516
Coffee ..... do	57,568,720	5,735,736
Mineral oils ..... do	171,561,972	3,545,372
Liquors ..... gallons	801,507	878,236
Wine ..... do	955,518	1,224,760

Foreign Trade of Austria-Hungary.—The Nachrichten für Handel und Industrie, Berlin, January 29, 1902, gives the following statistics regarding the foreign trade of Austria-Hungary in 1901:

The imports (exclusive of gold and silver) were figured at $345,587,200 and the exports at $383,507,600—an increase for the import trade of $1,218,000 and a decrease in the export figures of $10,618,400, as compared with 1900. The following table shows the approximate values of the principal articles, with the increase and decrease compared with 1900:

Imports.

Article.	1901.	Increase.	Decrease.
Raw tobacco	$11,205,600	$791,700	.....
Colonial goods	10,089,100	.....	$1,136,800
Cereals	7,247,100	893,200	.....
Cattle for slaughter	4,141,200	.....	284,200
Wine	3,978,800	.....	1,847,300
Coal, coke, and turf	21,538,300	.....	1,258,600
Raw and smelted iron	2,598,400	.....	182,700

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Exports.

Article.	1901.	Increase.	Decrease.
Sugar	$34,449,100	.....	$3,430,700
Cereals	12,606,300	$791,700	.....
Malt	9,297,400	.....	1,015,000
Wood	45,025,400	.....	6,597,500
Coal, coke, and turf	22,208,200	2,862,300	.....
Smelted iron	1,786,400	.....	2,293,900
Other metals (exclusive of precious)	6,942,600	.....	466,900

Economic Conditions in Spain.—The following extracts are taken from La Riforma Sociale, Turin, October 15, 1901:

The principal exports of Spain are iron ore, copper, lead, sugar, cotton and woolen textiles, skins, hosiery, wine, oranges, lemons, limes, oil, dried fruits, grapes, preserved food, and saffron. There is not a single province in Spain which does not produce wine. The vineyards occupy an area of 3,505,170 acres, yielding, in 1900, 3,536,264 metric tons of grapes and 528,122,153 gallons of wine. In 1856, Spain exported less than 8,800,000 pounds of olive oil and less than 2,200,000 pounds of olives. In 1899, the exportation was figured at 119,048,400 pounds of oil and 8,818,400 pounds of olives. The oil produced was estimated at 52,800,000 gallons. The most productive provinces are Seville, Cordoba, Saragossa, Murcia, and Loen. Another real source of wealth will always be the fresh and dried fruits. Recently a new product has appeared in Spain, as in so many other countries, viz, beet sugar. Up to 1875, most of the sugar imported came from Cuba and Porto Rico. At present, besides 22 manufactories of sugar cane, there are 34 beet-sugar factories in Spain, and it is estimated that the annual output of these factories is 66,639 metric tons. According to the last published statistics regarding the mining production, it is easily seen that the mining and metallurgic industries of Spain are destined to have an extraordinary development:

Description.	1898.		1899.	
	*Pesetas.**		*Pesetas.**	
Mining production	152,371,842	$23,465,264	167,154,437	$25,741,785
Metallurgic production	166,774,920	25,683,334	176,184,216	27,132,369

*Average value of peseta, 15.4 cents.

Thirty-five classes of minerals are extracted. In 1899, there were 1,964 producing mines, with an area of 625,057 acres, and 15,555 unproductive mines, with an acreage of 901,680.

It is notable that in a country abounding in lignite and forests, the imports of mineral coal and coke were valued last year at $10,626,000; of timber, at $6,468,000; and of staves, at $1,848,000. Another curious fact is observed in regard to the trade in live animals, the total importation being 618,569 head, valued at $3,616,910, and the exportation 248,250 head, valued at $3,988,982. It appears that the importation comes from one frontier and the exportation passes by the other, the reason of this being the difficulty of transportation in the interior. It is the same with wool; the export of washed and unwashed wool was valued at $1,232,000, while the import of unwashed, washed, and carded wool amounted to $2,156,000. It has been said that Spain was not favored either by the nature of its soil or by climatic conditions,

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but a country which has 3,500 hours of sunshine in the year, with running water everywhere, a fertile soil able to produce immense quantities of wine and of grain, and a subsoil rich in minerals can hardly be said to be little favored by nature. Two things only are lacking: a spirit of enterprise as regards methods of culture and systems of irrigation, in order to profit by the waters now not utilized. To estimate the importance of this, it is enough to show that of the 49,420,000 acres under cultivation, only 2,223,900 acres are irrigated, and these districts produce double the quantity of grain extracted from the others.

Foreign Trade of Japan in 1901.—According to La Dépêche Coloniale, the imports into Japan in the year 1901 were valued at $127,239,000, compared with $142,623,348 in the preceding year. The Japanese export trade was valued at $125,371,500, against $101,497,958 in 1900.

The Nachrichten für Handel und Industrie, Berlin, January 25, 1902, notes that the export trade between Japan and Hawaii is increasing, as shown by the following statistics:

1891	$55,247
1895	201,962
1898	357,243
1899	673,271
1900	644,805

The reason for this increase, says the article, is found in the increased emigration of Japanese workmen to the Hawaiian Islands, as the exports are chiefly sake, soy, salted fish, cotton manufactures, and screens.

A New Oil in Spain.—The Spanish journal Industria e Invenciones, of Madrid,* reports the discovery of a very useful shrub which, if properly cultivated, might acquire great importance. The natives of the province of Vallegrande extract from the fruit of this shrub an oily substance, which when cool possesses the consistency of stearin, used in the manufacture of candles. This oil is of a greenish color and can be easily extracted. The shrub grows wild everywhere in this province, but especially in the valleys. Good results, says the writer, should be obtained by pursuing this discovery. Candles manufactured out of this oil would be of the same quality as those of stearin and should possess even greater illuminating power.

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*Quoted by Nachrichten für Handel und Industrie, Berlin, January 31, 1902.

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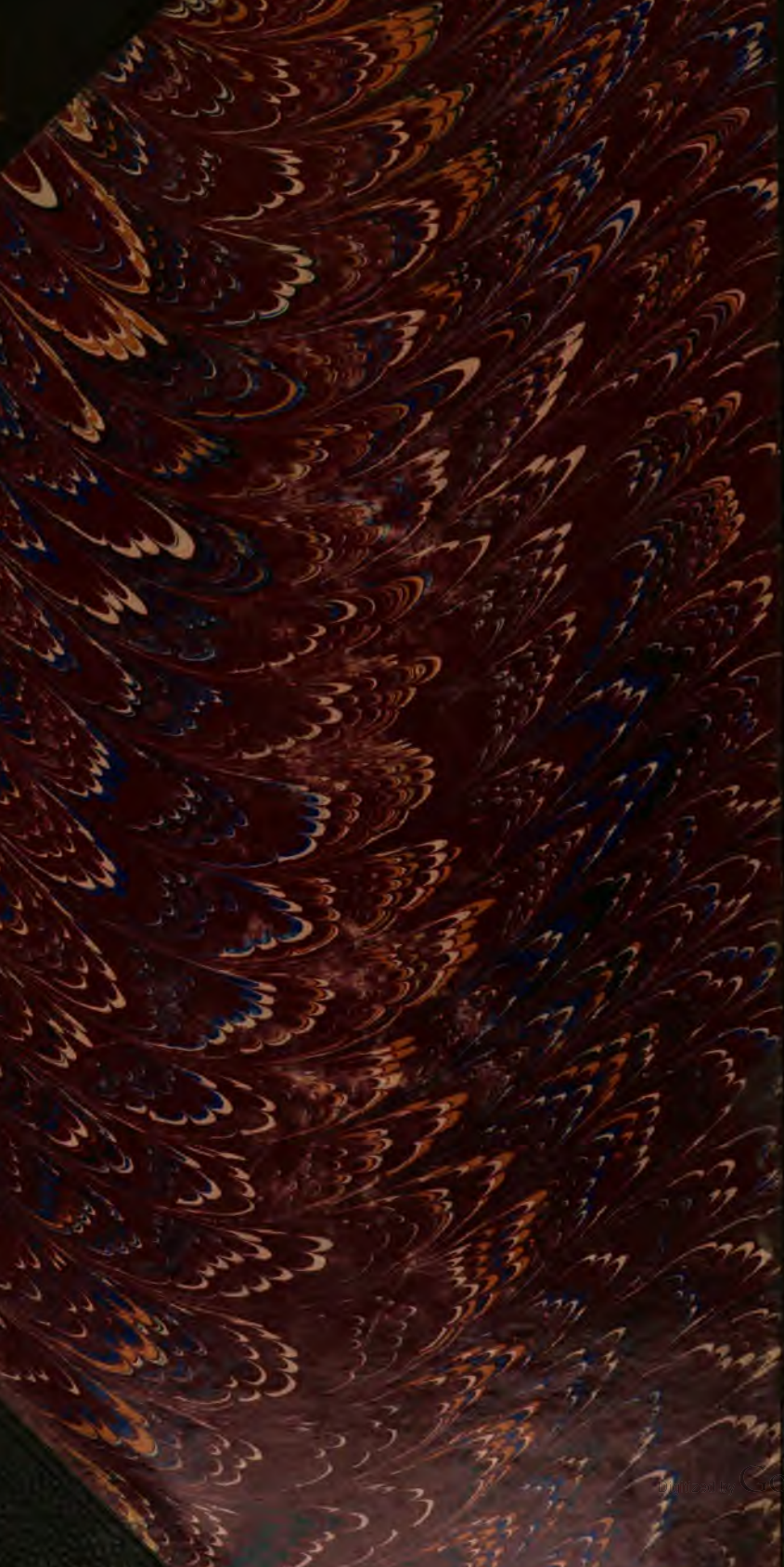
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